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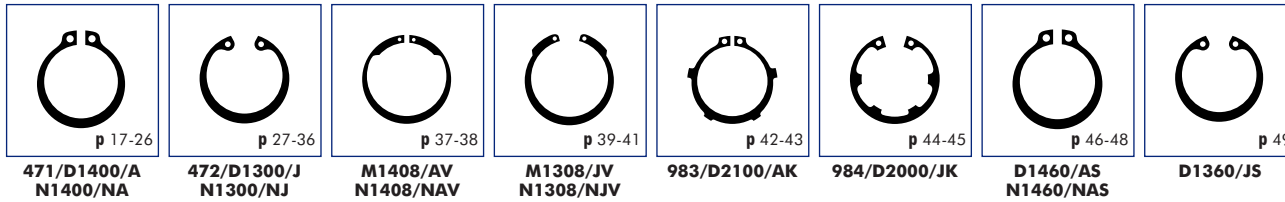
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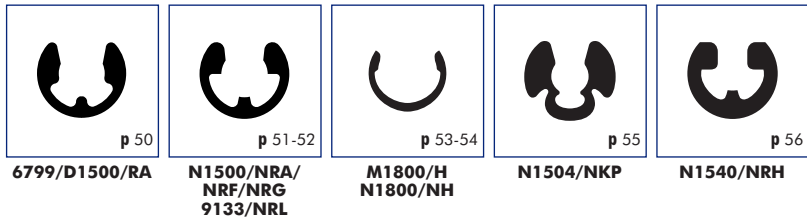


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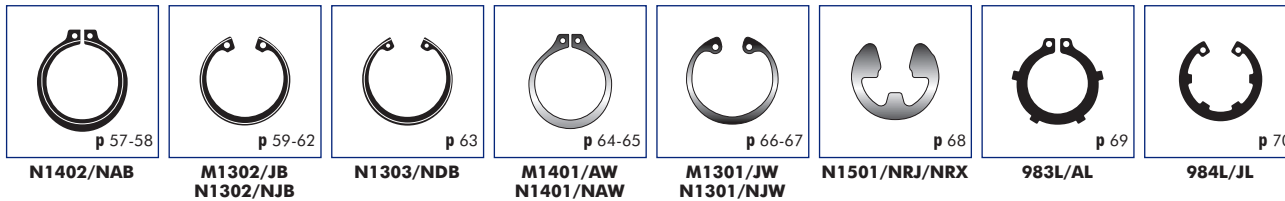
BASIC TYPES OF RINGS



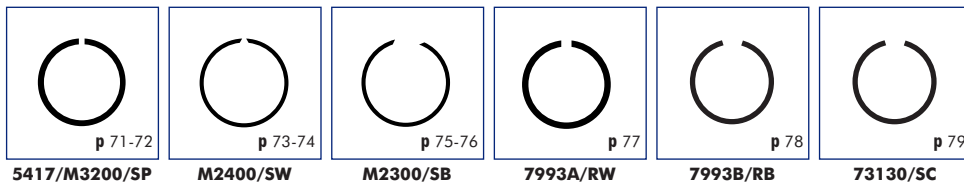
RINGS FOR RADIAL ASSEMBLY



RINGS FOR COMPENSATING AXIAL PLAY

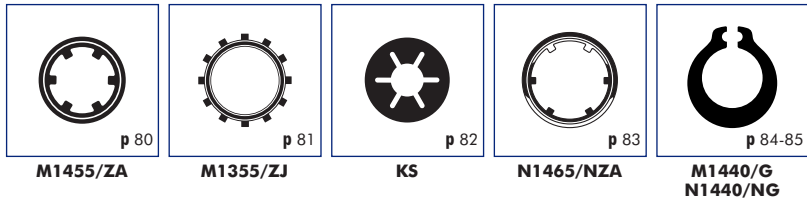


UNIFORM SECTION SNAP RINGS

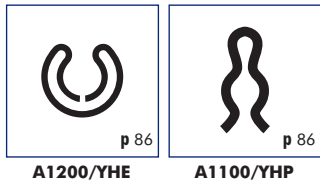


TYPES OF RINGS

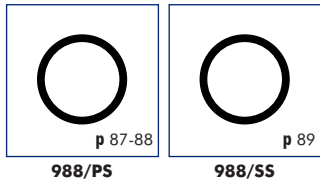
PUSH-ON FIX/GRIP RINGS



WIRE RINGS

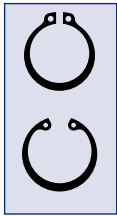


SHIM AND SUPPORT WASHERS



TYPES OF RINGS

BASIC TYPES OF RINGS

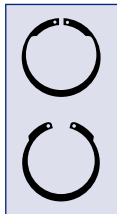


Classic Circlips/Retaining Rings

The universally applicable rings for shafts and bores.

- Applications in all branches of industry and machine, instrument and vehicle construction.

See pages 17 to 36

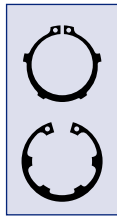


Inverted Circlips

With a small radial height. Simultaneously transferring axial forces and serving as a radial guidance.

- In designs with low clearance
- Fixing of needle roller bearings, seals, etc.

See pages 37 to 41

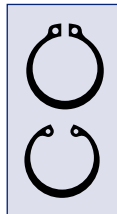


'K' Type Rings

With equally distributed lugs around the circumference suitable for covered applications.

- Retention of machine parts with large edge off-sets, chamfers or radii, for example roller bearings.

See pages 42 to 45



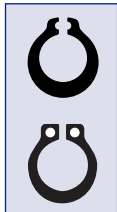
Heavy Duty Circlips Reinforced Design

For applications with a high axial force.

- Use with splined shafts.

See pages 46 to 49

SELF LOCKING RINGS



Grip Rings

High clamping force for a play-free retention on shafts without a groove. Easily removable, self locking grip rings.

- Use for shafts without a groove
- For locating and fixing
- As a slide-ring for brake adjustment.

See pages 84 to 85

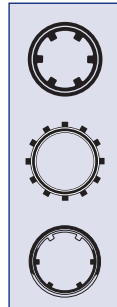


Push-On Fix Clips

Strengthened version of the toothed clip, transmitting relatively high axial forces.

- Fixing of switches and indicator lamps
- For office machines and household devices
- Optical and electronic industry.

See pages 82



Toothed Clips

Concentric design. Small radial height, for use against softer materials.

- Shafts and bores without groove and of low depth
- In optical devices
- Fixing seals.

See pages 80, 81, 83



RANGE AT A GLANCE



RADIAL ASSEMBLY RINGS



'E' Rings

The universally used radially assembled circlip for shafts. The groove is gripped by 3 tabs.

- Vehicle construction
- Optical and electronic industry
- Light mechanical industry.

See pages 50, 51, 52, 56



Crescent Rings

In keeping with the principle of a single radial assembly 'E' ring. Large clasp angle.

- For retaining inner pin bushes in articulated joints
- In sprocket chains.

See pages 53 to 54



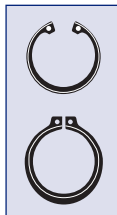
Kliprings

Large abutments of outer tabs offer effective additional retention.

- Vehicle construction
- Machine construction
- Electric motors.

See page 55

RINGS FOR COMPENSATION OF AXIAL PLAY



Bevelled Circlips

As classic rings, however offering more application possibilities due to the bevel effect to compensate for axial tolerances.

- Gearing/Transmission, wheel bearings
- Vehicle construction
- Machine construction.

See pages 57 to 63

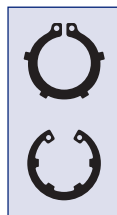


'Bowed' W Rings

For shafts and bores. Curved form compensates large play with low force.

- Installation of roller bearings without axial play and for noise damping
- General machine construction
- Machine tools.

See pages 64 to 68



'Dished' L Rings

For shafts and bores. Formed 'like' a disc spring. For a sprung compensation of low axial play.

- To press against nilos rings on roller bearings
- Fixing of outer discs on multi disc clutches.

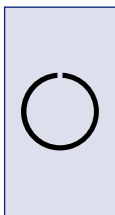
See pages 69 to 70



RANGE AT A GLANCE



SNAPRINGS

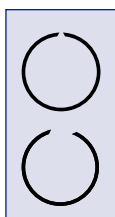


Snaprings DIN 5417

For shafts. The inner edges are radiussed for fixing of roller bearings with a groove and outer ring.

- Roller bearing to DIN 616.

See pages 71 to 72

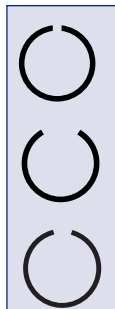


Snaprings

For shafts and bores with small clearance.

- Gear box construction
- Retention of bearings and seals.

See pages 73 to 76



Round Wire Rings

Round cross section wire rings, cold worked spring steel. Especially suited for semi-circular grooves with covering.

- Retention of gudgeon pins
- Transmission and vehicle construction
- Metal forming industry.

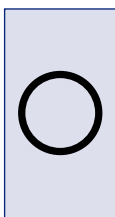
See pages 77 to 79



Special Wire Rings

See pages 86

SUPPORT WASHERS/SHIMS

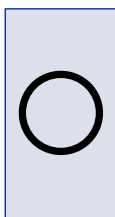


Shims DIN 988

A rigid means of reducing axial play caused by manufacturing tolerances. Stepwise thickness combination.

- Compensation of axial play
- Machine construction
- Vehicle construction.

See pages 87 to 88



Support Washers DIN 988

Manufactured from spring steel, hardness HRC 44-49. Larger sizes with ground faces.

- Between components with large radiussed edges and retaining rings. To create a true abutment.

See pages 89

Circlips (also commercially known as Retaining Rings/Snaprings) are fasteners with numerous applications. The applications mentioned could quite easily be supplemented by a multitude of more specialised uses.

We also specialise in the manufacture of Rings to the customers own specification. If there are any queries, or further technical assistance is required contact your CIRTEQ customer service partner.



RANGE AT A GLANCE





TYPE	SIZE RANGE	ROCKWELL HRC	TYPE	SIZE RANGE	ROCKWELL HRC	TYPE	SIZE RANGE	ROCKWELL HRC
471/D1400/A	)		N1400/NA	25 to 46	51 to 55	N1500/NRA	6 to 31	48 to 53
472/D1300J	)		N1401/NAW	50 to 102	49 to 54	N1501/NRJ/NRX	37 to 137	47 to 52
M1408/AV	)			106 to 343	47 to 52			
M1308/JV	) 3 to 48	47 to 54		343 & over	45 to 50	N1504/NKP	15 to 200	51 to 55
983/D2100/AK	) 50 to 200	44 to 51				N1540/NRH	9 to 56	
984/D2000/JK	) 202 to 300	40 to 47	N1300/NJ	25 to 51	51 to 55			
D1460/AS	) 305 to 420	38 to 45	N1301/NJW	56 to 77	49 to 54	N1800/NH	12 to 18	51 to 56
D1360/JS	)			81 to 102	47 to 53		21 to 43	49 to 54
M1401/AW	)			106 to 343	47 to 52		50 to 81	47 to 53
M1301/JW	)			350 & over	45 to 50		87 to 200	47 to 52
Grip Rings	) 1.5 to 30		N1302/NJB	100 to 102	47 to 53	N1440/NG	7 to 75	46 to 51
6799/D1500/RA	) 1.2 to 24	47 to 54		106 & over	47 to 52			
M1800/H	) 3 to 55					N1465/NZA	9 to 100	47 to 51
9133/NRL	) 2 to 35		N1402/NAB	100 to 102	47 to 54			
				106 to 343	47 to 52	A1200/YHE	8 to 50	47 to 54
M1302/JB	) 40 to 48) 50 to 140	47 to 54 44 to 51		350 & over	45 to 50	A1100/YHP	7 to 43	
			N1303/NDB	156 to 281	47 to 52			
5417/M3200/SP	) 30 to 400	45 to 50	N1460/NAS	39 to 62 66 & over	49 to 54 47 to 52			
M2400/SW	) 4 to 460							
M2300/SB	) 7 to 440	40 Minimum	N1408/NAV	50 to 102	47 to 53			
7993A/RW	) 4 to 125			106 to 343	47 to 52			
7993B/RB	) 7 to 125			350 & over	45 to 50			
73130/SC	) 10 to 35							
M1455/ZA	) 1.5 to 45		N1308/NJV	62 to 75	49 to 54			
M1355/ZJ	) 8 to 50	47 to 54		81 to 102	47 to 53			
KS	) 1.5 to 10			106 to 343	47 to 52			
				350 & over	45 to 50			
988/SS	) 3 to 22	49 to 54						

NB. In cases of doubt the Vickers hardness test applies.

HARDNESS RANGES



inches		mm	inches		mm	inches		mm	inches		mm
fractions	decimals		fractions	decimals		fractions	decimals		fractions	decimals	
—	.0004	.01	—	.374	9.5	13/16	.8125	20.638	—	1.4961	38.0
—	.004	.10	3/8	.375	9.525	—	.8268	21.0	1-1/2	1.500	38.100
—	.01	.25	25/64	.391	9.922	53/64	.828	21.034	1-17/32	1.531	38.894
1/64	.0156	.397	—	.3937	10.0	27/32	.844	21.431	—	1.5354	39.0
—	.0197	.50	13/32	.406	10.319	55/64	.859	21.828	1-19/16	1.562	39.688
—	.0295	.75	—	.413	10.5	—	.8661	22.0	—	1.5748	40.0
1/32	.03125	.794	27/64	.422	10.716	7/8	.875	22.225	1-19/32	1.594	40.481
—	.0394	1.0	—	.4331	11.0	57/64	.8906	22.622	—	1.6142	41.0
3/64	.0469	1.191	7/16	.438	11.113	—	.9055	23.0	1-5/8	1.625	41.275
—	.059	1.5	29/64	.453	11.509	29/32	.9062	23.019	—	1.6535	42.0
1/16	.062	1.588	15/32	.469	11.906	59/64	.922	23.416	1-21/32	1.6562	42.069
5/64	.0781	1.984	—	.4724	12.0	15/16	.9375	23.813	1-11/16	1.6875	42.863
—	.0787	2.0	31/64	.484	12.303	—	.9449	24.0	—	1.6929	43.0
3/32	.094	2.381	—	.492	12.5	61/64	.953	24.209	1-23/32	1.719	43.656
—	.0984	2.5	1/2	.500	12.700	31/32	.969	24.606	—	1.7323	44.0
7/64	.109	2.778	—	.5118	13.0	—	.9843	25.0	1-3/4	1.750	44.450
—	.1181	3.0	33/64	.5156	13.097	63/64	.9844	25.003	—	1.7717	45.0
1/8	.125	3.175	17/32	.531	13.494	1	1.000	25.400	1-25/32	1.781	45.244
—	.1378	3.5	35/64	.547	13.891	—	1.0236	26.0	—	1.8110	46.0
9/64	.141	3.572	—	.5512	14.0	1-1/32	1.0312	26.194	1-13/16	1.8125	46.038
5/32	.156	3.969	9/16	.563	14.288	1-1/16	1.062	26.988	1-27/32	1.844	46.831
—	.1575	4.0	—	.571	14.5	—	1.063	27.0	—	1.8504	47.0
11/64	.172	4.366	37/64	.578	14.684	1-3/32	1.094	27.781	1-7/8	1.875	47.625
—	.177	4.5	—	.5906	15.0	—	1.1024	28.0	—	1.8898	48.0
3/16	.1875	4.763	19/32	.594	15.081	1-1/8	1.125	28.575	1-29/32	1.9062	48.419
—	.1969	5.0	39/64	.609	15.478	—	1.1417	29.0	—	1.9291	49.0
13/64	.203	5.159	5/8	.625	15.875	1-5/32	1.156	29.369	1-15/16	1.9375	49.213
—	.2165	5.5	—	.6299	16.0	—	1.1811	30.0	—	1.9685	50.0
7/32	.219	5.556	41/64	.6406	16.272	1-3/16	1.1875	30.163	1-31/32	1.969	50.006
15/64	.234	5.953	—	.6496	16.5	1-7/32	1.219	30.956	2	2.000	50.800
—	.2362	6.0	21/32	.656	16.669	—	1.2205	31.0	—	2.0079	51.0
1/4	.250	6.350	—	.6693	17.0	1-1/4	1.250	31.750	2-1/32	2.03125	51.594
—	.2559	6.5	43/64	.672	17.066	—	1.2598	32.0	—	2.0472	52.0
17/64	.2656	6.747	11/16	.6875	17.463	1-9/32	1.281	32.544	2-1/16	2.062	52.388
—	.2756	7.0	45/64	.703	17.859	—	1.2992	33.0	—	2.0866	53.0
9/32	.281	7.144	—	.7087	18.0	1-5/16	1.312	33.338	2-3/32	2.094	53.181
—	.2953	7.5	23/32	.719	18.256	—	1.3386	34.0	2-1/8	2.125	53.975
19/64	.297	7.541	—	.7283	18.5	1-11/32	1.344	34.131	—	2.126	54.0
5/16	.312	7.938	47/64	.734	18.653	1-3/8	1.375	34.925	2-5/32	2.156	54.769
—	.315	8.0	—	.7480	19.0	—	1.3779	35.0	—	2.165	55.0
21/64	.328	8.334	3/4	.750	19.050	1-13/32	1.406	35.719	2-3/16	2.1875	55.563
—	.335	8.5	49/64	.7656	19.447	—	1.4173	36.0	—	2.2047	56.0
11/32	.344	8.731	25/32	.781	19.844	1-7/16	1.438	36.513	2-7/32	2.219	56.356
—	.3543	9.0	—	.7874	20.0	—	1.4567	37.0	—	2.244	57.0
23/64	.359	9.128	51/64	.797	20.241	1-15/32	1.469	37.306	2-1/4	2.250	57.150



CONVERSION TABLE



inches		mm	inches		mm	inches		mm	inches		mm
fractions	decimals		fractions	decimals		fractions	decimals		fractions	decimals	
2-9/32	2.281	57.944	3-1/16	3.062	77.788	3-27/32	3.844	97.631	—	7.4803	190.0
—	2.2835	58.0	—	3.0709	78.0	—	3.8583	98.0	7-1/2	7.500	190.500
2-5/16	2.312	58.738	3-3/32	3.094	78.581	3-7/8	3.875	98.425	—	7.8740	200.0
—	2.3228	59.0	—	3.1102	79.0	—	3.8976	99.0	8	8.000	203.200
2-11/32	2.344	59.531	3-1/8	3.125	79.375	3-29/32	3.9062	99.219	—	8.2677	210.0
—	2.3622	60.0	—	3.1496	80.0	—	3.9370	100.0	8-1/2	8.500	215.900
2-3/8	2.375	60.325	3-5/32	3.156	80.169	3-15/16	3.9375	100.013	—	8.6614	220.0
—	2.4016	61.0	3-3/16	3.1875	80.963	3-31/32	3.969	100.806	9	9.000	228.600
2-13/32	2.406	61.119	—	3.1890	81.0	—	3.9764	101.0	—	9.0551	230.0
2-7/16	2.438	61.913	3-7/32	3.219	81.756	4	4.000	101.600	—	9.4488	240.0
—	2.4409	62.0	—	3.2283	82.0	4-1/16	4.062	103.188	9-1/2	9.500	241.300
2-15/32	2.469	62.706	3-1/4	3.250	82.550	4-1/8	4.125	104.775	—	9.8425	250.0
—	2.4803	63.0	—	3.2677	83.0	—	4.1338	105.0	10	10.000	254.001
2-1/2	2.500	63.500	3-9/32	3.281	83.344	4-3/16	4.1875	106.363	—	10.2362	260.0
—	2.5197	64.0	—	3.3071	84.0	4-1/4	4.250	107.950	—	10.6299	270.0
2-17/32	2.531	64.294	3-5/16	3.312	84.1377	4-5/16	4.312	109.538	11	11.000	279.401
—	2.559	65.0	3-11/32	3.344	84.9314	—	4.3307	110.0	—	11.0236	280.0
2-9/16	2.562	65.088	—	3.3464	85.0	4-3/8	4.375	111.125	—	11.4173	290.0
2-19/32	2.594	65.881	3-3/8	3.375	85.725	4-7/16	4.438	112.713	—	11.8110	300.0
—	2.5984	66.0	—	3.3858	86.0	4-1/2	4.500	114.300	12	12.000	304.801
2-5/8	2.625	66.675	3-13/32	3.406	86.519	—	4.5275	115.0	13	13.000	330.201
—	2.638	67.0	—	3.4252	87.0	4-9/16	4.562	115.888	—	13.7795	350.0
2-21/32	2.656	67.469	3-7/16	3.438	87.313	4-5/8	4.625	117.475	14	14.000	355.601
—	2.6772	68.0	—	3.4646	88.0	4-11/16	4.6875	119.063	15	15.000	381.001
2-11/16	2.6875	68.263	3-15/32	3.469	88.106	—	4.7244	120.0	—	15.7480	400.0
—	2.7165	69.0	3-1/2	3.500	88.900	4-3/4	4.750	120.650	16	16.000	406.401
2-23/32	2.719	69.056	—	3.5039	89.0	4-13/16	4.8125	122.238	17	17.000	431.801
2-3/4	2.750	69.850	3-17/32	3.531	89.694	4-7/8	4.875	123.825	—	17.7165	450.0
—	2.7559	70.0	—	3.5433	90.0	—	4.9212	125.0	18	18.000	457.201
2-25/32	2.781	70.6439	3-9/16	3.562	90.4877	4-15/16	4.9375	125.413	19	19.900	482.601
—	2.7953	71.0	—	3.5827	91.0	5	5.000	127.000	—	19.6850	500.0
2-13/16	2.8125	71.4376	3-19/32	3.594	91.281	—	5.1181	130.0	20	20.000	508.001
—	2.8346	72.0	—	3.662	92.0	5-1/4	5.250	133.350	—	—	—
2-27/32	2.844	72.2314	3-5/8	3.625	92.075	5-1/2	5.500	139.700	—	—	—
—	2.8740	73.0	3-21/32	3.656	92.869	—	5.5118	140.0	—	—	—
2-7/8	2.875	73.025	—	3.6614	93.0	5-3/4	5.750	146.050	—	—	—
2-29/32	2.9062	73.819	3-11/16	3.6875	93.663	—	5.9055	150.0	—	—	—
—	2.9134	74.0	—	3.7008	94.0	6	6.000	152.400	—	—	—
2-15/16	2.9375	74.613	3-23/32	3.719	94.456	6-1/4	6.250	158.750	—	—	—
—	2.9527	75.0	—	3.7401	95.0	—	6.2992	160.0	—	—	—
2-31/32	2.969	75.406	3-3/4	3.750	95.250	6-1/2	6.500	165.100	—	—	—
—	2.9921	76.0	—	3.7795	96.0	—	6.6929	170.0	—	—	—
3	3.000	76.200	3-25/32	3.781	96.044	6-3/4	6.750	171.450	—	—	—
3-1/32	3.0312	76.994	3-13/16	3.8125	96.838	7	7.000	177.800	—	—	—
—	3.0315	77.0	—	3.8189	97.0	—	7.0866	180.0	—	—	—

CONVERSION TABLE



Materials

Circlips		
Standard material	Carbon spring steel	EN10132 C67S, C72S* or C75S parts blanked from strip EN10264 C67D, C72D* or C75D parts coiled and blanked from wire
Alternatives	Martensitic stainless steel	EN10151 X35CrMo7 Norm 1.4122 parts blanked from strip EN10270-3 X35CrMo7 Norm 1.4122 parts coiled and blanked from wire
	Precipitation hardening stainless steel	ASM 5520D Ph 15-7 all parts
	Phosphor bronze**	EN1654 CuSn5*, CuSn6 or CuSn8 parts blanked from strip EN12166 CuSn5*, CuSn6 or CuSn8 parts coiled and blanked from wire
Snap Rings		
Standard material	Carbon spring steel	EN10132 C67S, C72S* or C75S small diameter parts blanked from strip EN10270-1 hard drawn patented wire parts coiled blanked from wire**
Alternatives	Austenitic stainless steel** Phosphor bronze**	EN10270-3 XcrNi18-8 Norm 1.4310 EN12166 CuSn5*, CuSn6 or CuSn8

*Preferred/standard option **Grade of material (tensile strength/hardness) to suit application

Surface Protection

Rings are generally supplied with a phosphate and oil coating, giving adequate corrosion resistance during the stocking period.

Special Finishes

For extra corrosion resistance a mechanical zinc plating protection is recommended, applied with various passivations to give the required salt spray resistance, without the risk of hydrogen embrittlement. Including hexavalent chrome free.

Packaging

Internal circlips are generally supplied stacked and shrink wrapped. All other products are supplied loose in small cartons or paper rolled.

Quality Accreditations

Accredited to TS 16949:2002.



MATERIALS, FINISHES, PACKAGING & QUALITY





Metric Standard					Inch Standard				
Cirteq	Seeger	Truarc	Rotorclip	DIN	Cirteq	Seeger	Truarc	Rotorclip	Mil Std. MS Nos.
D1400/A	A		DSH	471	N1400/NA		5100	SH	16624
D1300/J	J		DHO	472	N1300/NJ		N5000	HO	16625
M1408/AV	AV		DSI		N1408/NAV		5108	SHI	16626
M1308/JV	JV		DHI		N1308/NJV		5008	HOI	16627
D2100/AK	AK		DST	983	N1460/NAS		5160	SHR	3217
D2000/JK	JK		DHT	984	N1500/NRA		5133	E	16633
D1460/AS	AS		DSR		N1501/NRX		5131	BE	16634
D1360/JS	JS		DHR		N1504/NKP		5304	PO	
D1500/RA	RA		DE	6799	N1540/NRH		5144	RE	3215
M1800/H	H		DC		N1800/NH		5103	C	16632
JB	JB		DVH		N1402/NAB		5102	VSH	16630
M1401/AW	AW				N1302/NJB		N5002	VHO	16631
M1301/JW	JW				N1303/NDB		N5003		
AL	AL				N1401/NAW		5101	BSH	16628
JL	JL				N1301/NJW		N5001	BHO	16629
M3200/SP	SP			5417	N1465/NZA		5115	TX	
M2400/SW	SW				N1440/NG		5555	SHF	90707
M2300/SB	SB								
RW	RW			7993A					
RB	RB			7993B					
SC	SC			73130					
M1455/ZA	ZA		DTX						
M1355/ZJ	ZJ		DTI						
KS	KS								
M1440/G	G								
SS	SS								
PS	PS								

MANUFACTURER EQUIVALENTS

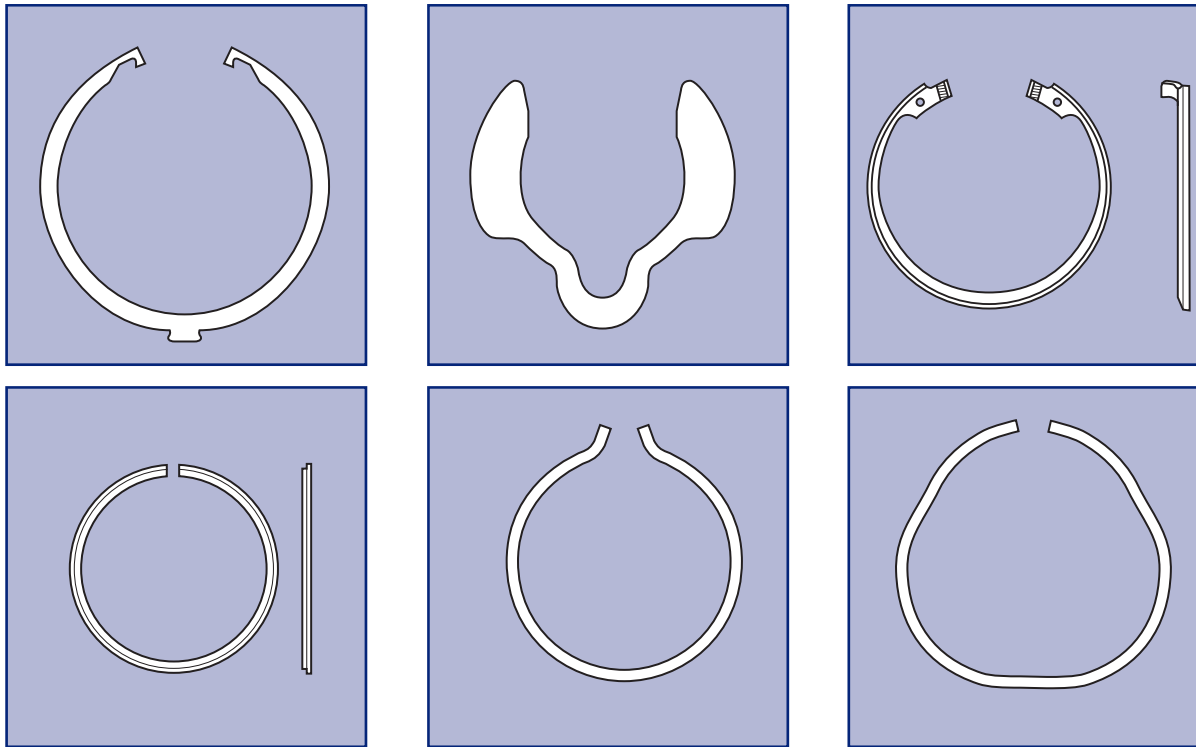


Special Components

Special components with an extremely wide range of shapes and dimensions and consisting of spring steel, phosphor bronze or stainless steels may be manufactured on request. It is recommended to consult Cirteq's technical advisors early on in the product development stage.

Safety Critical Applications

100% tested parts available on request.

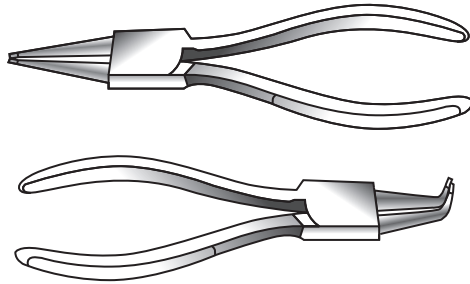


SPECIAL COMPONENTS



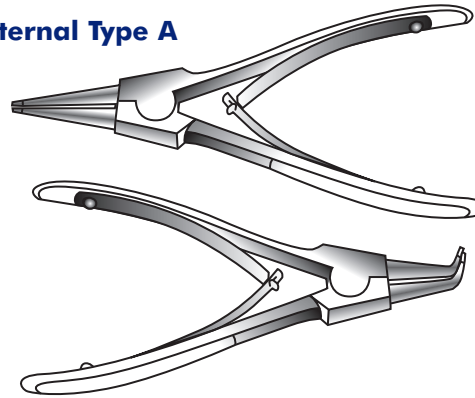
Pliers

Internal Type J



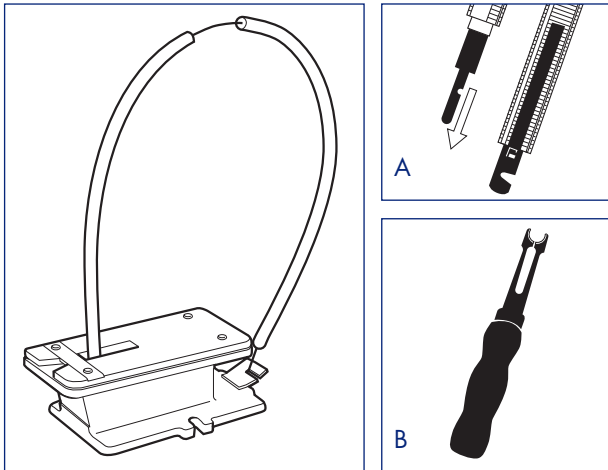
Straight Nose Typ.No.	J0	J1	J2	J3	J4
Bent Nose Typ.No.	J01	J11	J21	J31	J41
Sizes From – To (mm)	8-15	10-25	19-60	40-100	85-165

External Type A



Straight Nose Typ.No.	A0	A1	A2	A3	A4
Bent Nose Typ.No.	A01	A11	A21	A31	A41
Sizes From – To (mm)	3-10	10-25	19-60	40-100	85-165

Eurobase



Cirteq supply applicators to be used in conjunction with the Eurobase.

The EUROBASE is a compact high quality cast iron block with a hard wearing cover plate and incorporates an all round guide for the applicators. Suitable for sizes 1.2 to 10mm. This almost completely guarantees the safe removal of the circlip from the stack, preventing tilting and springing off, and as the applicators are positively guided into position no skill is required.

The stack consists of a flexible steel strip which locates itself when inserted by means of a slot (diagram 'A'). The upper end is bent back and hooked into the base, which prevents any risk of injury from protruding pieces, and the applicators can be parked in the base making a safe space saving installation.

Fixed rod STACKFEEDA bases and applicators are available for circlip sizes 12-19mm.



ASSEMBLY TOOLS

AN (mm²) Groove area.

a (mm) Radial width of the ring's lug (Lug height).

B (-) Load factor indicating how many times the load bearing capacity of the reinforced ring is higher than that of the standard one.

b (mm) Maximum radial width of the ring (beam).

C (N/mm) Spring rate of the axially loaded ring.

C₁ (mm) Clearance of circlip on shaft/in bore.

C₂ (mm) Clearance of circlip in groove.

D (mm) Nominal outside diameter.

d (mm) Nominal inside diameter.

d₁ (mm) Nominal dimension = shaft or bore diameter.

d₂ (mm) Groove diameter.

d₃ (mm) Inside diameter of rings for shafts or outer diameter of rings for bores in the free state.

d₄ (mm) Centre line diameter of rings in the free state derived from the maximum radial space requirement a or b.

d_{4,2} (mm) Diameter d₄ fitted in the groove d₂.

d₅ (mm) Diameter of the assembly holes or corresponding semi-circular slots.

d₇ (mm) Wire diameter for round wire circlips.

e (mm) Unstressed circlip gap.

FL (N) Axial spring force of L-Rings.

FN (N) Load bearing capacity of the groove.

FR (N) Load bearing capacity of the ring with sharp-cornered abutment.

FRg (N) Load bearing capacity of the ring abutting a machine component with a chamfer, at a corner distance, or radius of g (mm).

F₁ (N) Axial spring force of W-Rings and SL washers at maximum force.

F₂ (N) Axial spring force of W-Ring and SL washers at minimum force.

f (mm) Spring distance of L-Rings. Axial displacement.

Note: For American Standard Range dimensions will be in ins. and lbs.



GLOSSARY OF TERMS



g (mm) Chamfer, corner distance, or radius of the machine component abutting the ring.

Weight (kg/1000) Weight of rings.

h (mm) Ring height.

H (N) Retaining force of Self-Locking rings.

K (N-mm) Value for calculating the load bearing capacity of the ring.

L (mm) Compensation of play of rings.

l (inches) Free length.

m (mm) Groove width.

n (mm) Shoulder width.

n_{det} (rpm) Detaching speed of external rings.

n/t (-) Shoulder length ratio.

p (-) Correction factor taking shoulder length ratio into account when F_N is available.

q (-) Load factor taking into account the shoulder length ratio.

r (mm) Groove radius.

s (mm) Thickness of rings.

s₁ (mm) Thickness of rings at bevelled edge.

T.I.R. Total Indicator Reading—maximum allowable deviation of concentricity between groove and shaft.

Tc (lb.f) Clip thrust load.

Tg (lb/ft) Groove thrust load.

t (mm) Groove depth $t = 1/2(d_1 - d_2)$.

u (mm) The required reduction of L for assembly of L-Rings.

V (mm) Initial displacement of the axially loaded ring.

Wo (mm) Curvature of the W-Rings and SL Washers in the free state.

w (-) wing dimension.

X max (-) Maximum bow height.

X min (-) Minimum bow height.

∅ Tolerance.

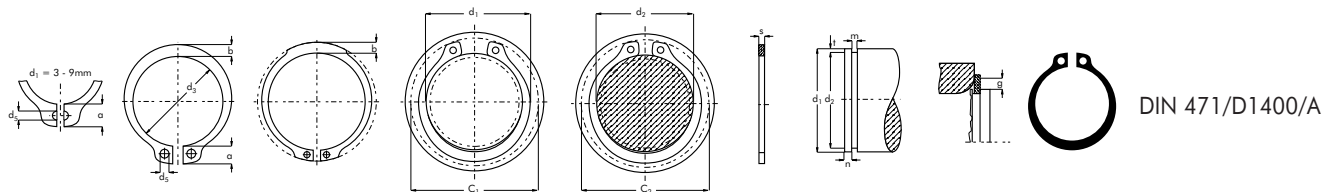
Number of teeth.




Note: For American Standard Range dimensions will be in ins. and lbs.

GLOSSARY OF TERMS

d ₁	DIN 471 D1400 A	○										H			D A T A									
		s	Δ	d ₃	Δ	a max.	b ≈	d _{5 min.}	C ₁	C ₂	(kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	B	n _{det.} x1000 (rpm)	
3	A3	0.40	-0.05	2.7		1.9	0.8	1.0	7.0	6.6	0.017	2.8	-0.04	0.50	0.10	0.3	0.1	0.47	0.5	0.27	0.9	2.06	360	
4	A4	0.40		3.7		+0.04	2.2	0.9	1.0	8.6	8.2	0.022		3.8	0.50	0.10	0.3	0.2	0.50	0.5	0.30	1.2	1.93	211
5	A5	0.60		4.7		-0.15	2.5	1.1	1.0	10.3	9.8	0.066		4.8	0.70	0.10	0.3	0.2	1.00	0.5	0.80	1.5	7.38	154
6	A6	0.70		5.6	+0.06 -0.18	2.7	1.3	1.2	11.7	11.1	0.084	5.7		0.80	0.15	0.5	0.4	1.45	0.5	0.90	2.8	10.40	114	
7	A7	0.80		6.5		3.1	1.4	1.2	13.5	12.9	0.121	6.7		0.90	0.15	0.5	0.5	2.60	0.5	1.40	3.2	14.70	121	
8	A8	0.80		7.4		3.2	1.5	1.2	14.7	14.0	0.158	7.6		0.90	0.20	0.6	0.8	3.00	0.5	2.00	4.9	14.20	96	
9	A9	1.00		8.4		3.3	1.7	1.2	16.0	15.2	0.300	8.6		1.10	0.20	0.6	0.9	3.50	0.5	2.40	5.5	30.00	85	
10	A10	1.00	9.3	+0.10 -0.36	3.3	1.8	1.5	17.0	16.2	0.340	9.6	1.10	0.20	0.6	1.0	4.00	1.0	2.40	6.2	28.20	84			
11	A11	1.00	10.2		3.3	1.8	1.5	18.0	17.1	0.410	10.5	1.10	0.25	0.8	1.4	4.50	1.0	2.40	8.4	26.10	70			
12	A12	1.00	11.0		3.3	1.8	1.7	19.0	18.1	0.500	11.5	1.10	0.25	0.8	1.5	5.00	1.0	2.40	9.2	24.00	75			
13	A13	1.00	11.9		+0.13 -0.42	3.4	2.0	1.7	20.2	19.2	0.530	12.4	1.10	0.30	0.9	2.0	5.80	1.0	2.40	11.9	23.20	66		
14	A14	1.00	12.9			3.5	2.1	1.7	21.4	20.4	0.640	13.4	1.10	0.30	0.9	2.1	6.40	1.0	2.40	12.9	22.90	58		
15	A15	1.00	13.8			3.6	2.2	1.7	22.6	21.5	0.670	14.3	1.10	0.35	1.1	2.6	6.90	1.0	2.40	16.1	21.60	50		
16	A16	1.00	14.7			3.7	2.2	1.7	23.8	22.6	0.700	15.2	1.10	0.40	1.2	3.2	7.40	1.0	2.40	19.6	21.00	45		
17	A17	1.00	15.7	3.8		2.3	1.7	25.0	23.8	0.820	16.2	1.10	0.40	1.2	3.4	8.00	1.0	2.40	20.8	21.60	41			
18	A18	1.20	16.5	-0.06	3.9	2.4	2.0	26.2	24.8	1.110	17.0	1.30	0.50	1.5	4.5	17.00	1.5	3.75	27.5	37.10	39			
19	A19	1.20	17.5		3.9	2.5	2.0	27.2	25.8	1.220	18.0	1.30	0.50	1.5	4.8	17.00	1.5	3.80	29.1	36.40	35			
20	A20	1.20	18.5		4.0	2.6	2.0	28.4	27.0	1.300	19.0	1.30	0.50	1.5	5.0	17.10	1.5	3.85	30.6	36.30	32			
21	A21	1.20	19.5		4.1	2.7	2.0	29.6	28.2	1.420	20.0	1.30	0.50	1.5	5.3	16.80	1.5	3.75	32.2	35.40	29			
22	A22	1.20	20.5		4.2	2.8	2.0	30.8	29.4	1.500	21.0	1.30	0.50	1.5	5.6	16.90	1.5	3.80	33.8	35.40	27			
23	A23	1.20	21.5		+0.21 -0.42	4.3	2.9	2.0	32.0	30.6	1.630	22.0	1.30	0.50	1.5	5.9	16.60	1.5	3.80	35.4	34.70	25		
24	A24	1.20	22.2			4.4	3.0	2.0	33.2	31.7	1.770	22.9	1.30	0.55	1.7	6.7	16.10	1.5	3.65	40.5	33.40	27		
25	A25	1.20	23.2	4.4		3.0	2.0	34.2	32.7	1.900	23.9	1.30	0.55	1.7	7.0	16.20	1.5	3.70	42.3	33.40	25			
26	A26	1.20	24.2	4.5		3.1	2.0	35.5	33.9	1.960	24.9	1.30	0.55	1.7	7.3	16.10	1.5	3.70	44.0	32.90	24			
27	A27	1.20	24.9	4.6		3.1	2.0	36.7	34.8	2.080	25.6	1.30	0.70	2.1	9.6	16.40	1.5	3.80	57.8	33.40	22			
28	A28	1.50	25.9	-0.21	4.7	3.2	2.0	37.9	36.0	2.920	26.6	1.60	0.70	2.1	10.0	32.10	1.5	7.50	60.0	65.00	21			
29	A29	1.50	26.9		4.8	3.4	2.0	39.1	37.2	3.200	27.6	1.60	0.70	2.1	10.3	31.80	1.5	7.45	62.0	64.00	20			
30	A30	1.50	27.9		5.0	3.5	2.0	40.5	38.6	3.320	28.6	1.60	0.70	2.1	10.7	32.10	1.5	7.65	64.0	64.20	19			
31	A31	1.50	28.6		5.1	3.5	2.5	41.7	40.9	3.450	29.3	1.60	0.85	2.6	13.4	31.50	2.0	5.60	81.0	62.80	18			
32	A32	1.50	29.6		5.2	3.6	2.5	43.0	40.7	3.540	30.3	1.60	0.85	2.6	13.8	31.20	2.0	5.55	83.0	61.80	17			
33	A33	1.50	30.5	+0.25 -0.50	5.2	3.7	2.5	44.0	41.7	3.690	31.3	1.60	0.85	2.6	14.3	31.60	2.0	5.65	86.0	62.20	17			
34	A34	1.50	31.5		5.4	3.8	2.5	45.4	43.1	3.800	32.3	1.60	0.85	2.6	14.7	31.30	2.0	5.60	88.0	61.30	16			
35	A35	1.50	32.2		5.6	3.9	2.5	46.8	44.2	4.000	33.0	1.60	1.00	3.0	17.8	30.80	2.0	5.55	107.0	60.10	16			
36	A36	1.75	33.2		5.6	4.0	2.5	47.8	45.2	5.000	34.0	1.85	1.00	3.0	18.3	49.40	2.0	9.00	110.0	95.80	15			
37	A37	1.75	34.2		5.7	4.1	2.5	49.0	47.0	5.370	35.0	1.85	1.00	3.0	18.8	50.00	2.0	9.15	113.0	96.40	14			

Part Number
Référence Teile Nummer Referencia de pieza
 Tolerance
Tolérance Toleranz Tolerancia
 Weight
Masse Gewicht Peso
 Ring
Anneau/Circlips Ring Anillo
 Groove
Gorge Nut Ranura



d ₁	DIN 471 D1400 A															D A T A							
		s	Δ	d ₃	Δ	a max.	b ≈	d _{5 min.}	C ₁	C ₂	 (kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	B	n _{det.} x1000 (rpm)
38	A38	1.75		35.2	+0.25/-0.50	5.8	4.2	2.5	50.2	47.6	5.620	36.0	-0.25	1.85	1.00	3.0	19.3	49.5	2.0	9.10	116	95.0	14
39	A39	1.75		36.0		5.9	4.3	2.5	51.4	48.5	5.850	37.0		1.85	1.00	3.0	19.9	49.8	2.0	9.25	119	95.2	15
40	A40	1.75		36.5		6.0	4.4	2.5	52.6	49.5	6.030	37.5		1.85	1.25	3.8	25.3	51.0	2.0	9.50	152	97.0	14
41	A41	1.75		37.5		6.2	4.5	2.5	54.0	51.5	6.215	38.5		1.85	1.25	3.8	26.0	50.1	2.0	9.40	156	94.5	14
42	A42	1.75		38.5		6.5	4.5	2.5	55.7	52.5	6.500	39.5		1.85	1.25	3.8	26.7	50.0	2.0	9.45	160	93.7	13
44	A44	1.75	-0.06	40.5	+0.39 -0.90	6.6	4.6	2.5	57.9	55.4	7.000	41.5	-0.25	1.85	1.25	3.8	28.0	48.5	2.0	9.20	168	90.7	12
45	A45	1.75		41.5		6.7	4.7	2.5	59.1	55.9	7.500	42.5		1.85	1.25	3.8	28.6	49.0	2.0	9.35	172	91.0	11
46	A46	1.75		42.5		6.7	4.8	2.5	60.1	56.9	7.600	43.5		1.85	1.25	3.8	29.4	48.9	2.0	9.40	177	90.2	11
47	A47	1.75		43.5		6.8	4.9	2.5	61.3	58.1	7.500	44.5		1.85	1.25	3.8	30.0	49.5	2.0	9.55	180	90.7	11
48	A48	1.75		44.5		6.9	5.0	2.5	62.5	59.3	7.900	45.5		1.85	1.25	3.8	30.7	49.4	2.0	9.55	184	90.0	10
50	A50	2.00		45.8	+0.46 -1.10	6.9	5.1	2.5	64.5	60.8	10.20	47.0	-0.30	2.15	1.50	4.5	38.0	73.3	2.0	14.40	228	133.0	11
52	A52	2.00		47.8		7.0	5.2	2.5	66.7	63.0	11.10	49.0		2.15	1.50	4.5	39.7	73.1	2.5	11.50	238	133.0	10
54	A54	2.00		49.8		7.1	5.3	2.5	69.0	65.2	11.30	51.0		2.15	1.50	4.5	41.2	71.2	2.5	11.30	247	129.0	9
55	A55	2.00		50.8		7.2	5.4	2.5	70.2	66.4	11.40	52.0		2.15	1.50	4.5	42.0	71.4	2.5	11.40	252	130.0	9
56	A56	2.00		51.8		7.3	5.5	2.5	71.6	67.6	11.80	53.0		2.15	1.50	4.5	42.8	70.8	2.5	11.30	257	129.0	9
57	A57	2.00	-0.07	52.8	+0.46 -1.10	7.3	5.5	2.5	72.3	69.3	12.20	54.0	-0.30	2.15	1.50	4.5	43.7	70.9	2.5	11.40	262	128.0	8
58	A58	2.00		53.8		7.3	5.6	2.5	73.6	69.6	12.60	55.0		2.15	1.50	4.5	44.3	71.1	2.5	11.50	266	129.0	8
60	A60	2.00		55.8		7.4	5.8	2.5	75.6	71.8	12.90	57.0		2.15	1.50	4.5	46.0	69.2	2.5	11.30	276	126.0	8
62	A62	2.00		57.8		7.5	6.0	2.5	77.8	74.0	14.30	59.0		2.15	1.50	4.5	47.5	69.3	2.5	11.40	285	126.0	7
63	A63	2.00		58.8		7.6	6.2	2.5	79.0	75.2	15.90	60.0		2.15	1.50	4.5	48.3	70.2	2.5	11.60	290	126.0	7
65	A65	2.50		60.8	+0.46 -1.10	7.8	6.3	3.0	81.4	77.6	18.20	62.0	-0.30	2.65	1.50	4.5	49.8	135.0	2.5	22.70	299	245.0	7
67	A67	2.50		62.5		7.9	6.4	3.0	83.6	79.8	20.30	64.0		2.65	1.50	4.5	51.3	136.0	2.5	23.00	308	245.0	7
68	A68	2.50		63.5		8.0	6.5	3.0	84.4	81.0	21.80	65.0		2.65	1.50	4.5	52.2	135.0	2.5	23.10	313	244.0	7
70	A70	2.50		65.5		8.1	6.6	3.0	87.0	83.2	22.00	67.0		2.65	1.50	4.5	53.8	134.0	2.5	23.00	323	241.0	7
72	A72	2.50		67.5		8.2	6.8	3.0	89.2	85.4	22.50	69.0		2.65	1.50	4.5	55.3	131.0	2.5	22.80	332	236.0	6
75	A75	2.50		70.5	+0.46 -1.10	8.4	7.0	3.0	92.7	88.8	24.60	72.0	-0.30	2.65	1.50	4.5	57.6	130.0	2.5	22.80	346	234.0	6
77	A77	2.50		72.5		8.5	7.2	3.0	94.9	91.0	25.70	74.0		2.65	1.50	4.5	59.3	131.0	3.0	19.70	356	238.0	6
78	A78	2.50		73.5		8.6	7.3	3.0	96.1	92.2	26.20	75.0		2.65	1.50	4.5	60.0	131.0	3.0	19.70	360	239.0	5
80	A80	2.50		74.5		8.6	7.4	3.0	98.1	93.7	27.30	76.5		2.65	1.75	5.3	71.6	128.0	3.0	19.50	430	236.0	6
82	A82	2.50		76.5		8.7	7.6	3.0	100.3	95.9	31.20	78.5		2.65	1.75	5.3	73.5	128.0	3.0	19.60	441	237.0	6
85	A85	3.00	-0.08	79.5	+0.54 -1.30	8.7	7.8	3.5	103.3	98.9	36.40	81.5	-0.35	3.15	1.75	5.3	76.2	215.0	3.0	33.40	457	405.0	6
87	A87	3.00		81.5		8.8	7.9	3.5	105.5	100.9	39.80	83.5		3.15	1.75	5.3	78.2	222.0	3.0	34.80	469	405.0	5
88	A88	3.00		82.5		8.8	8.0	3.5	106.5	102.0	41.20	84.5		3.15	1.75	5.3	79.0	221.0	3.0	34.80	474	406.0	5
90	A90	3.00		84.5		8.8	8.2	3.5	108.5	104.0	44.50	86.5		3.15	1.75	5.3	80.0	217.0	3.0	34.40	485	401.0	5
92	A92	3.00		86.5		9.0	8.4	3.5	110.9	107.4	46.00	88.5		3.15	1.75	5.3	82.0	217.0	3.5	29.60	496	404.0	5

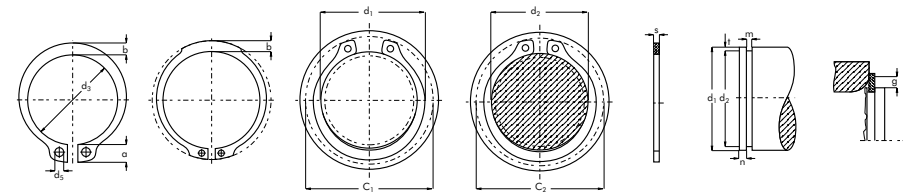
 **Part Number**
 Référence Teile Nummer Referencia de pieza




 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



d ₁	DIN 471 D1400 A														D A T A								
		s	Δ	d ₃	Δ	a max.	b =	d _{5 min.}	C ₁	C ₂	 (kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	B	n _{det.} x1000 (rpm)
95	A95	3.00	-0.08	89.5	+0.54 -1.30	9.4	8.6	3.5	114.8	111.0	49.0	91.5	-0.35	3.15	1.75	5.3	85.0	212	3.5	29.20	513	400	5
97	A97	3.00		91.5		9.4	8.8	3.5	116.7	113.2	50.2	93.5		3.15	1.75	5.3	87.0	211	3.5	29.40	524	401	4
98	A97	3.00		91.5		9.4	8.8	3.5	118.6	114.0	50.2	94.5		3.15	1.75	5.3	88.0	208	3.5	29.00	529	397	4
100	A100	3.00		94.5		9.6	9.0	3.5	120.2	116.0	53.7	96.5		3.15	1.75	5.3	90.0	206	3.5	29.00	540	397	4
102	A102	4.00		95.0		9.7	9.2	3.5	122.4	118.0	78.0	98.0		4.15	2.00	6.0	104.0	482	3.5	68.50	628	935	5
105	A105	4.00	+0.54 -1.30	98.0	+0.54 -1.30	9.9	9.3	3.5	126.2	122.0	80.0	101.0	-0.54	4.15	2.00	6.0	107.0	471	3.5	67.70	646	925	5
107	A107	4.00		100.0		10.0	9.5	3.5	128.0	124.0	81.0	103.0		4.15	2.00	6.0	110.0	465	3.5	67.30	660	920	5
108	A107	4.00		100.0		10.0	9.5	3.5	129.0	124.0	81.0	104.0		4.15	2.00	6.0	111.0	459	3.5	66.30	666	912	4
110	A110	4.00		103.0		10.1	9.6	3.5	131.2	127.0	82.0	106.0		4.15	2.00	6.0	113.0	457	3.5	66.90	678	914	4
112	A112	4.00		105.0		10.3	9.7	3.5	133.6	129.6	83.0	108.0		4.15	2.00	6.0	115.0	451	3.5	66.60	690	910	4
115	A115	4.00	-0.10	108.0	+0.63 -1.50	10.6	9.8	3.5	137.3	133.0	84.0	111.0	-0.63	4.15	2.00	6.0	118.0	438	3.5	65.50	709	894	4
117	A117	4.00		110.0		10.8	10.0	3.5	139.7	135.7	85.0	113.0		4.15	2.00	6.0	120.0	437	3.5	65.60	722	899	4
118	A117	4.00		110.0		10.8	10.0	3.5	140.7	136.7	85.0	114.0		4.15	2.00	6.0	121.0	430	3.5	64.80	728	887	4
120	A120	4.00		113.0		11.0	10.2	3.5	143.1	138.0	86.0	116.0		4.15	2.00	6.0	123.0	424	3.5	64.50	741	882	4
122	A122	4.00		115.0		11.2	10.3	4.0	145.5	141.5	88.0	118.0		4.15	2.00	6.0	125.0	418	4.0	56.60	753	875	4
125	A125	4.00	-0.10	118.0	+0.63 -1.50	11.4	10.4	4.0	149.0	144.0	90.0	121.0	-0.63	4.15	2.00	6.0	128.0	411	4.0	56.50	772	870	3
127	A127	4.00		120.0		11.4	10.5	4.0	150.9	146.8	95.0	123.0		4.15	2.00	6.0	130.0	407	4.0	56.10	785	868	3
128	A127	4.00		120.0		11.4	10.5	4.0	151.9	147.9	95.0	124.0		4.15	2.00	6.0	131.0	401	4.0	55.60	791	859	3
130	A130	4.00		123.0		11.6	10.7	4.0	154.4	150.0	100.0	126.0		4.15	2.00	6.0	134.0	395	4.0	55.20	804	852	3
132	A132	4.00		125.0		11.7	10.8	4.0	156.6	152.6	103.0	128.0		4.15	2.00	6.0	136.0	396	4.0	55.60	816	859	3
135	A135	4.00	-0.10	128.0	+0.63 -1.50	11.8	11.0	4.0	159.8	155.0	104.0	131.0	-0.63	4.15	2.00	6.0	139.0	389	4.0	55.40	835	854	3
137	A137	4.00		130.0		11.9	11.0	4.0	162.0	158.0	107.0	133.0		4.15	2.00	6.0	141.0	380	4.0	54.40	848	840	3
138	A137	4.00		130.0		11.9	11.0	4.0	163.0	159.0	107.0	134.0		4.15	2.00	6.0	142.0	381	4.0	54.70	854	845	3
140	A140	4.00		133.0		12.0	11.2	4.0	165.2	160.0	110.0	136.0		4.15	2.00	6.0	144.0	376	4.0	54.40	867	840	3
142	A142	4.00		135.0		12.1	11.3	4.0	167.4	163.4	112.0	138.0		4.15	2.00	6.0	146.0	370	4.0	54.00	880	833	3
145	A145	4.00	-0.10	138.0	+0.63 -1.50	12.2	11.5	4.0	170.6	166.0	115.0	141.0	-0.63	4.15	2.00	6.0	149.0	367	4.0	53.80	898	833	3
147	A147	4.00		140.0		12.3	11.6	4.0	172.8	168.8	116.0	143.0		4.15	2.00	6.0	151.0	361	4.0	53.50	910	826	3
148	A147	4.00		140.0		12.3	11.6	4.0	173.8	169.8	116.0	144.0		4.15	2.00	6.0	152.0	357	4.0	53.00	916	820	2
150	A150	4.00		142.0		13.0	11.8	4.0	177.3	171.0	120.0	145.0		4.15	2.50	7.5	193.0	357	4.0	53.40	1158	825	2
152	A152	4.00		143.0		13.0	11.9	4.0	179.3	174.3	128.0	147.0		4.15	2.50	7.5	195.0	356	4.0	53.10	1174	822	3
155	A155	4.00	-0.10	146.0	+0.63 -1.50	13.0	12.0	4.0	182.3	176.0	135.0	150.0	-0.63	4.15	2.50	7.5	199.0	352	4.0	52.60	1198	814	3
157	A157	4.00		148.0		13.1	12.0	4.0	184.5	179.5	140.0	152.0		4.15	2.50	7.5	202.0	352	4.0	52.50	1212	814	3
158	A157	4.00		148.0		13.1	12.0	4.0	185.5	180.5	140.0	153.0		4.15	2.50	7.5	203.0	353	4.0	52.70	1221	815	3
160	A160	4.00		151.0		13.3	12.2	4.0	188.0	182.0	150.0	155.0		4.15	2.50	7.5	206.0	349	4.0	52.50	1237	806	3
162	A162	4.00		152.5		13.3	12.3	4.0	189.9	184.9	155.0	157.0		4.15	2.50	7.5	208.0	348	5.0	41.70	1251	804	3

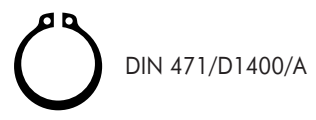
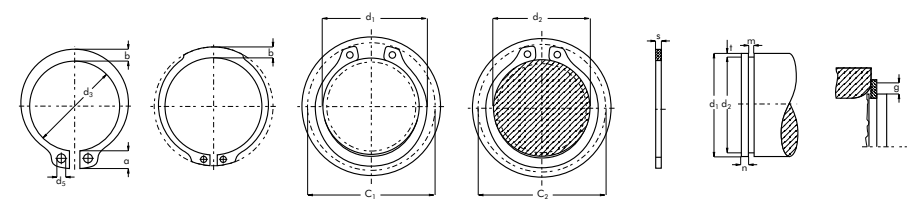
 **Part Number**
 Référence Teile Nummer Referencia de pieza



 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



d ₁	DIN 471 D1400 A														D A T A								
		s	Δ	d ₃	Δ	a max.	b ≈	d ₅ min.	C ₁	C ₂	(kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	B	n _{det.} x1000 (rpm)
165	A165	4.00		155.5		13.5	12.5	4.0	193.5	187.0	160.0	160.0		4.15	2.50	7.5	212.0	345	5.0	41.40	1275	797	3
167	A167	4.00		157.5		13.5	12.9	4.0	195.3	190.3	163.0	162.0		4.15	2.50	7.5	215.0	354	5.0	42.50	1291	819	3
168	A167	4.00		157.5		13.5	12.9	4.0	196.3	191.3	163.0	163.0		4.15	2.50	7.5	216.0	353	5.0	42.40	1300	815	2
170	A170	4.00		160.5		13.5	12.9	4.0	198.4	192.0	170.0	165.0		4.15	2.50	7.5	219.0	349	5.0	41.90	1315	806	2
172	A172	4.00		160.5		13.5	12.9	4.0	200.4	195.3	170.0	167.0		4.15	2.50	7.5	221.0	344	5.0	41.30	1330	795	2
175	A175	4.00	-0.10	165.5	+0.63 -1.50	13.5	12.9	4.0	203.4	197.0	180.0	170.0	-0.63	4.15	2.50	7.5	225.0	340	5.0	40.70	1353	785	2
177	A177	4.00		167.5		14.2	13.5	4.0	206.8	202.0	183.0	172.0		4.15	2.50	7.5	228.0	335	5.0	40.20	1370	774	2
178	A177	4.00		167.5		14.2	13.5	4.0	207.8	203.0	183.0	173.0		4.15	2.50	7.5	229.0	349	5.0	42.00	1378	807	2
180	A180	4.00		170.5		14.2	13.5	4.0	210.0	204.0	190.0	175.0		4.15	2.50	7.5	232.0	345	5.0	41.40	1393	797	2
182	A180	4.00		170.5		14.2	13.5	4.0	211.8	207.0	190.0	177.0		4.15	2.50	7.5	235.0	341	5.0	41.00	1410	789	2
185	A185	4.00		175.5		14.2	13.5	4.0	215.2	209.0	200.0	180.0		4.15	2.50	7.5	238.0	336	5.0	40.40	1432	777	2
187	A187	4.00		177.5		14.2	14.0	4.0	216.8	212.0	203.0	182.0		4.15	2.50	7.5	241.0	338	5.0	40.50	1449	781	2
188	A187	4.00		177.5		14.2	14.0	4.0	217.8	213.0	203.0	183.0		4.15	2.50	7.5	242.0	337	5.0	40.60	1457	779	2
190	A190	4.00		180.5		14.2	14.0	4.0	220.0	214.0	210.0	185.0		4.15	2.50	7.5	245.0	333	5.0	40.00	1471	770	3
192	A190	4.00		180.5		14.2	14.0	4.0	221.8	217.0	210.0	187.0		4.15	2.50	7.5	248.0	330	5.0	39.60	1488	763	3
195	A195	4.00	185.5	14.2	14.0	4.0	225.0	219.0	220.0	190.0	4.15	2.50	7.5	251.0	325	5.0	39.00	1511	751	2			
197	A197	4.00	187.5	14.2	14.0	4.0	226.8	222.0	223.0	192.0	4.15	2.50	7.5	254.0	322	5.0	38.60	1528	744	2			
198	A197	4.00	187.5	14.2	14.0	4.0	227.8	223.0	223.0	193.0	4.15	2.50	7.5	255.0	322	5.0	38.70	1535	739	2			
200	A200	4.00	190.5	14.2	14.0	4.0	230.0	224.0	230.0	195.0	4.15	2.50	7.5	258.0	319	5.0	38.30	1550	731	2			
202	A202	5.00	190.0	14.2	14.0	4.0	231.8	226.0	235.0	196.0	5.15	3.00	9.0	312.0	624	6.0	62.50	1875	1430	2			
205	A205	5.00	193.0	14.2	14.0	4.0	235.0	228.0	243.0	199.0	5.15	3.00	9.0	317.0	611	6.0	61.30	1905	1401	2			
207	A205	5.00	193.0	14.2	14.0	4.0	236.8	231.0	243.0	201.0	5.15	3.00	9.0	320.0	608	6.0	60.90	1921	1392	2			
208	A205	5.00	193.0	14.2	14.0	4.0	237.8	232.0	243.0	202.0	5.15	3.00	9.0	321.0	605	6.0	60.50	1930	1385	2			
210	A210	5.00	198.0	14.2	14.0	4.0	240.0	233.0	248.0	204.0	5.15	3.00	9.0	325.0	598	6.0	59.90	1951	1370	2			
212	A210	5.00	198.0	14.2	14.0	4.0	241.8	236.0	248.0	206.0	5.15	3.00	9.0	328.0	593	6.0	59.50	1969	1359	2			
215	A215	5.00	203.0	14.2	14.0	4.0	244.8	239.0	260.0	209.0	5.15	3.00	9.0	332.0	585	6.0	58.50	1997	1340	2			
217	A215	5.00	203.0	14.2	14.0	4.0	246.8	241.0	260.0	211.0	5.15	3.00	9.0	336.0	580	6.0	58.10	2018	1330	2			
218	A215	5.00	203.0	14.2	14.0	4.0	247.8	242.0	260.0	212.0	5.15	3.00	9.0	337.0	577	6.0	57.80	2024	1322	2			
220	A220	5.00	208.0	14.2	14.0	4.0	250.0	243.0	265.0	214.0	5.15	3.00	9.0	340.0	572	6.0	57.30	2045	1311	2			
222	A220	5.00	208.0	14.2	14.0	4.0	251.8	246.0	265.0	216.0	5.15	3.00	9.0	343.0	567	6.0	56.80	2062	1300	2			
225	A225	5.00	213.0	14.2	14.0	4.0	255.0	249.0	280.0	219.0	5.15	3.00	9.0	349.0	559	6.0	56.00	2095	1282	2			
227	A225	5.00	213.0	14.2	14.0	4.0	257.0	251.0	280.0	221.0	5.15	3.00	9.0	351.0	555	6.0	55.50	2110	1271	1			
228	A225	5.00	213.0	14.2	14.0	4.0	258.0	252.0	280.0	222.0	5.15	3.00	9.0	353.0	552	6.0	55.40	2120	1265	1			
230	A230	5.00	218.0	14.2	14.0	4.0	260.0	253.0	290.0	224.0	5.15	3.00	9.0	356.0	548	6.0	55.00	2140	1257	1			
232	A230	5.00	218.0	14.2	14.0	4.0	262.0	256.0	290.0	226.0	5.15	3.00	9.0	359.0	543	6.0	54.50	2155	1243	1			

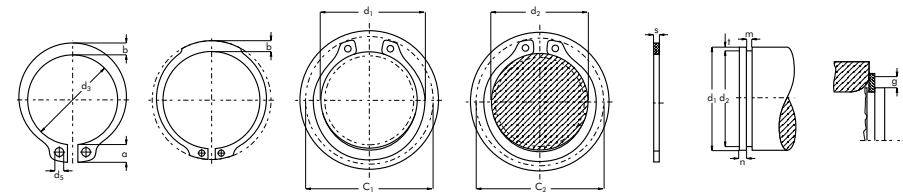
 **Part Number**
 Référence Teile Nummer Referencia de pieza



 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



d ₁	DIN 471 D1400 A															D A T A							
		s	Δ	d ₃	Δ	a max.	b =	d _{5 min.}	C ₁	C ₂	(kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	B	n _{det.} x1000 (rpm)
235	A235	5.00		223.0		14.2	14.0	4.0	265.0	259.0	305	229		5.15	3.00	9.0	364	537	6.0	53.80	2185	1230	1
237	A235	5.00		223.0		14.2	14.0	4.0	267.0	261.0	305	231		5.15	3.00	9.0	367	532	6.0	53.40	2202	1220	1
238	A235	5.00		223.0		14.2	14.0	4.0	268.0	262.0	305	232		5.15	3.00	9.0	369	530	6.0	53.00	2215	1214	1
240	A240	5.00		228.0		14.2	14.0	4.0	270.0	263.0	310	234		5.15	3.00	9.0	372	530	6.0	53.00	2236	1214	1
242	A240	5.00		228.0		14.2	14.0	4.0	272.0	266.0	310	236		5.15	3.00	9.0	375	520	6.0	52.20	2250	1193	1
245	A245	5.00		233.0		14.2	14.0	4.0	275.0	269.0	325	239		5.15	3.00	9.0	380	515	6.0	51.50	2280	1180	1
247	A245	5.00		233.0		14.2	14.0	4.0	277.0	271.0	325	241	-0.72	5.15	3.00	9.0	383	511	6.0	51.20	2300	1171	1
248	A245	5.00		233.0		14.2	14.0	4.0	278.0	272.0	325	242		5.15	3.00	9.0	385	508	6.0	50.90	2310	1164	1
250	A250	5.00		238.0		14.2	14.0	4.0	280.0	273.0	335	244		5.15	3.00	9.0	388	504	6.0	50.50	2330	1155	1
252	A250	5.00		238.0	+0.72 -1.70	16.2	16.0	5.0	286.0	278.0	335	244		5.15	4.00	12.0	519	563	6.0	56.40	3115	1290	1
255	A255	5.00		240.0		16.2	16.0	5.0	289.0	281.0	348	247		5.15	4.00	12.0	525	557	6.0	55.70	3150	1276	1
257	A255	5.00		240.0		16.2	16.0	5.0	291.0	283.0	348	249		5.15	4.00	12.0	529	551	6.0	55.20	3175	1264	1
258	A255	5.00		240.0		16.2	16.0	5.0	292.0	284.0	348	250		5.15	4.00	12.0	531	550	6.0	55.10	3190	1260	1
260	A260	5.00		245.0		16.2	16.0	5.0	294.0	285.0	355	252		5.15	4.00	12.0	535	540	6.0	54.60	3215	1250	1
262	A260	5.00		245.0		16.2	16.0	5.0	296.0	288.0	355	254		5.15	4.00	12.0	540	542	6.0	54.40	3240	1242	1
265	A265	5.00		250.0		16.2	16.0	5.0	299.0	291.0	370	257		5.15	4.00	12.0	546	536	6.0	53.70	3280	1228	1
267	A265	5.00	-0.12	250.0		16.2	16.0	5.0	301.0	293.0	370	259		5.15	4.00	12.0	550	532	6.0	53.30	3300	1219	1
268	A265	5.00		250.0		16.2	16.0	5.0	302.0	294.0	370	260		5.15	4.00	12.0	553	529	6.0	53.00	3320	1213	1
270	A270	5.00		255.0		16.2	16.0	5.0	304.0	295.0	375	262		5.15	4.00	12.0	556	525	6.0	52.50	3340	1203	1
272	A270	5.00		255.0		16.2	16.0	5.0	306.0	298.0	375	264		5.15	4.00	12.0	560	522	6.0	52.00	3365	1196	1
275	A275	5.00		260.0		16.2	16.0	5.0	309.0	301.0	390	267		5.15	4.00	12.0	566	516	6.0	51.00	3400	1183	1
277	A275	5.00		260.0		16.2	16.0	5.0	311.0	303.0	390	269		5.15	4.00	12.0	571	513	6.0	51.00	3430	1175	1
278	A275	5.00		260.0		16.2	16.0	5.0	312.0	304.0	390	270		5.15	4.00	12.0	574	510	6.0	51.00	3445	1170	1
280	A280	5.00		265.0		16.2	16.0	5.0	314.0	305.0	398	272		5.15	4.00	12.0	576	508	6.0	50.00	3460	1164	1
282	A280	5.00		265.0		16.2	16.0	5.0	316.0	308.0	398	274	-0.81	5.15	4.00	12.0	580	503	6.0	50.00	3485	1152	1
285	A285	5.00		270.0		16.2	16.0	5.0	319.0	311.0	410	277		5.15	4.00	12.0	587	499	6.0	50.00	3525	1143	1
287	A285	5.00		270.0	+0.81 -2.00	16.2	16.0	5.0	321.0	313.0	410	279		5.15	4.00	12.0	591	494	6.0	49.00	3550	1133	1
288	A285	5.00		270.0		16.2	16.0	5.0	322.0	314.0	410	280		5.15	4.00	12.0	594	493	6.0	49.00	3565	1131	1
290	A290	5.00		275.0		16.2	16.0	5.0	324.0	315.0	418	282		5.15	4.00	12.0	599	490	6.0	49.00	3595	1124	1
292	A290	5.00		275.0		16.2	16.0	5.0	326.0	318.0	418	284		5.15	4.00	12.0	603	487	6.0	48.00	3620	1116	1
295	A295	5.00		280.0		16.2	16.0	5.0	329.0	321.0	430	287		5.15	4.00	12.0	609	481	6.0	48.00	3655	1103	1
297	A295	5.00		280.0		16.2	16.0	5.0	331.0	323.0	430	289		5.15	4.00	12.0	613	479	6.0	48.00	3680	1098	1
298	A295	5.00		280.0		16.2	16.0	5.0	332.0	324.0	430	290		5.15	4.00	12.0	615	476	6.0	47.00	3695	1092	1
300	A300	5.00		285.0		16.2	16.0	5.0	334.0	325.0	440	292		5.15	4.00	12.0	619	475	6.0	47.00	3715	1088	1
305	A305	6.00	-0.15	288.0		16.2	16.0	6.0	339.0	329.0	738	295		6.20	5.00	15.0	768	768	7.0	68.00	4712	2374	1

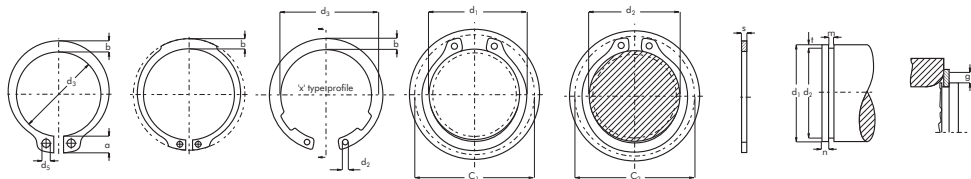
 **Part Number**
 Référence Teile Nummer Referencia de pieza


 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



d ₁	D1400 A	○							⌋				D A T A							
		s	Δ	d ₃	Δ	b ≈	d _{5 min.}	 (kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	B	n _{det.} x1000 (rpm)
310	A310	6.00		293.0		16.0	6.0	750	300		6.20	5.00	15.0	796	756	7.0	67.00	4780	2329	1.0
315	A315	6.00		298.0		16.0	6.0	760	305	-0.81	6.20	5.00	15.0	811	744	7.0	66.00	4869	2307	1.0
320	A320	6.00		303.0	+0.81	16.0	6.0	770	310		6.20	5.00	15.0	825	732	7.0	65.00	4950	2264	1.0
325	A325	6.00		308.0	-2.00	16.0	6.0	787	315		6.20	5.00	15.0	837	721	7.0	64.00	5027	2233	1.0
330	A330	6.00		313.0		16.0	6.0	800	320		6.20	5.00	15.0	850	710	7.0	63.00	5100	2195	1.0
335	A335	6.00		318.0		16.0	6.0	826	325		6.20	5.00	15.0	864	700	7.0	62.00	5184	2166	1.0
340	A340	6.00		323.0		16.0	6.0	840	330	6.20	5.00	15.0	876	689	7.0	61.00	5260	2136	1.0	
345	A345	6.00		328.0		16.0	6.0	845	335	6.20	5.00	15.0	890	679	7.0	60.00	5341	2102	1.0	
350	A350	6.00		333.0		16.0	6.0	850	340	6.20	5.00	15.0	903	670	7.0	59.00	5420	2074	1.0	
355	A355	6.00		338.0		16.0	6.0	865	345	6.20	5.00	15.0	916	660	7.0	59.00	5498	2048	1.0	
360	A360	6.00		343.0		16.0	6.0	880	350	-0.89	6.20	5.00	15.0	928	651	7.0	58.00	5570	2017	1.0
365	A365	6.00		348.0		16.0	6.0	885	355		6.20	5.00	15.0	942	642	7.0	57.00	5655	1990	1.0
370	A370	6.00		353.0	+0.90	16.0	6.0	890	360		6.20	5.00	15.0	955	634	7.0	56.00	5730	1962	1.0
375	A375	6.00		358.0	-2.00	16.0	6.0	910	365		6.20	5.00	15.0	968	625	7.0	55.00	5812	1943	1.0
380	A380	6.00		363.0		16.0	6.0	930	370		6.20	5.00	15.0	980	617	7.0	55.00	5880	1909	1.0
385	A385	6.00	-0.15	368.0		16.0	6.0	940	375	6.20	5.00	15.0	994	609	7.0	54.00	5969	1886	1.0	
390	A390	6.00		373.0		16.0	6.0	950	380	6.20	5.00	15.0	1008	601	7.0	53.00	6050	1865	1.0	
395	A395	6.00		378.0		16.0	6.0	990	385	6.20	5.00	15.0	1021	594	7.0	53.00	6126	1841	1.0	
400	A400	6.00		383.0		16.0	6.0	1040	390	6.20	5.00	15.0	1033	586	7.0	52.00	6200	1817	1.0	
410	A410	7.00		390.0		23.0	6.0	1320	398	7.20	6.00	18.0	1269	1264	7.0	112.00	7615	3701	1.0	
420	A420	7.00		400.0		23.0	6.0	1360	408	-1.00	7.20	6.00	18.0	1300	1234	7.0	109.00	7803	3595	1.0
430	A430	7.00		410.0		23.0	6.0	1390	418		7.20	6.00	18.0	1332	1206	7.0	107.00	7992	3527	1.0
440	A440	7.00		420.0		23.0	6.0	1420	428		7.20	6.00	18.0	1363	1178	7.0	104.00	8181	3448	1.0
450	A450	7.00		430.0		23.0	6.0	1450	438		7.20	6.00	18.0	1393	1153	7.0	102.00	8360	3373	1.0
460	A460	7.00		440.0		23.0	6.0	1520	448		7.20	6.00	18.0	1426	1128	7.0	100.00	8557	3305	1.0
470	A470	7.00		450.0	+1.00	23.0	6.0	1590	458	-1.00	7.20	6.00	18.0	1457	1104	7.0	98.00	8746	3237	1.0
480	A480	7.00		460.0	-2.00	23.0	6.0	1660	468		7.20	6.00	18.0	1489	1081	7.0	96.00	8935	3169	0.5
490	A490	7.00		470.0		23.0	6.0	1725	478		7.20	6.00	18.0	1520	1059	7.0	94.00	9123	3105	0.5
500	A500	7.00		480.0		23.0	6.0	1790	488		7.20	6.00	18.0	1550	1038	7.0	92.00	9300	3044	0.5
510	A510	8.00		485.0		23.0	6.0	2300	496		8.20	7.00	21.0	1843	1526	7.0	135.00	11061	4471	1.0
520	A520	8.00		495.0		23.0	6.0	2350	506	+1.50 -3.00	8.20	7.00	21.0	1880	1497	7.0	133.00	11282	4387	0.5
530	A530	8.00		505.0		23.0	6.0	2400	516		8.20	7.00	21.0	1916	1469	7.0	130.00	11501	4302	0.5
540	A540	8.00		515.0		23.0	6.0	2445	526		8.20	7.00	21.0	1953	1441	7.0	128.00	11721	4229	0.4
550	A550	8.00		525.0		23.0	6.0	2490	536		8.20	7.00	21.0	1986	1415	7.0	125.00	11920	4150	0.4
560	A560	8.00		535.0		23.0	6.0	2580	546		8.20	7.00	21.0	2026	1390	7.0	123.00	12161	4071	0.4

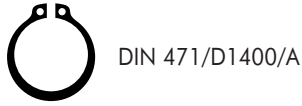
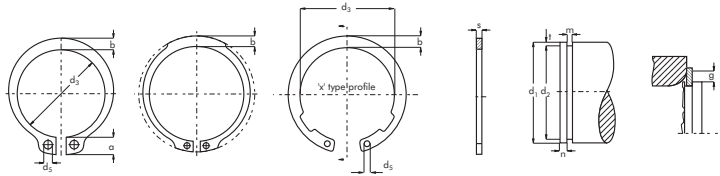
 **Part Number**
 Référence Teile Nummer Referencia de pieza




 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



d ₁	D1400 A												D A T A							
		s	Δ	d ₃	Δ	b ≈	d _{5 min.}	 (kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	B	n _{det.} x1000 (rpm)
570	A570	8.00	-0.15	545.0	+1.50 -3.00	23.0	6.0	2670	556	-1.00	8.20	7.00	21.0	2063	1366	7.0	121.00	12381	4009	0.40
580	A580	8.00		555.0		23.0	6.0	2760	566		8.20	7.00	21.0	2100	1342	7.0	119.00	12601	3936	0.40
590	A590	8.00		565.0		23.0	6.0	2840	576		8.20	7.00	21.0	2136	1320	7.0	117.00	12821	3869	0.40
600	A600	8.00		575.0		23.0	6.0	2920	586		8.20	7.00	21.0	2170	1298	7.0	115.00	13030	3807	0.30
650	A650	9.00		620.0		23.0	6.0	3770	634		9.30	8.00	24.0	2640	1712	7.0	152.00	15860	6447	0.40
700	A700	9.00	-0.20	670.0	+2.00 -4.00	23.0	6.0	4070	684	-1.00	9.30	8.00	24.0	2890	1589	7.0	141.00	17350	5990	0.30
750	A750	9.00		715.0		23.0	9.0	4640	732		9.30	9.00	27.0	3490	1487	7.0	132.00	20950	5606	0.19
800	A800	9.00		765.0		23.0	9.0	5330	782		9.30	9.00	27.0	3730	1394	7.0	123.00	22380	5261	0.30
850	A850	9.00		810.0		23.0	9.0	6030	830		9.30	10.00	30.0	4400	1315	7.0	116.00	26400	4956	0.30
900	A900	9.00		860.0		23.0	9.0	6640	880		9.30	10.00	30.0	4650	1242	7.0	110.00	27950	4684	0.20
950	A950	9.00	-0.20	900.00	+2.00 -4.00	23.0	9.0	7260	928	-1.00	9.30	11.00	33.0	5400	1179	7.0	104.00	32450	4451	0.20
1000	A1000	9.00		950.00		23.0	9.0	8130	978		9.30	11.00	33.0	5700	1119	7.0	99.00	34200	4235	0.20

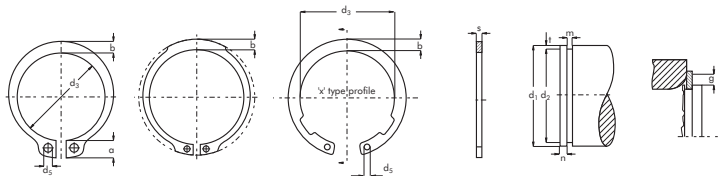
 **Part Number**
 Référence Teile Nummer Referencia de pieza

 **Tolerance**
 Tolérance Toleranz Tolerancia




 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



Circlips pour arbres cote pouce Sicherungsringe für Wellen Zoll-Standard Anillos para ejes pulgadas standard RINGS FOR SHAFTS INCH STANDARD

d ₁	N1400 NA																	D A T A			
		s	Δ	d ₃	Δ	a max.	b ≈	w ~	d ₅ min.	C ₁	C ₂	 (lbs/1000)	d ₂	Δ	m	Δ	n min.	T _c	T _g		
0.125	NA12	0.010	±0.001	0.112	+ .002 - .004	0.048	0.018	0.011	0.024	0.22	0.214	0.018	0.117	±.0015	0.012	+ .002 - .000	0.014	110	28		
0.156	NA15	0.010		0.142		0.056	0.026	0.016	0.024	0.27	0.260	0.037	0.146		0.012		0.017	130	44		
0.188	NA18	0.015		0.168		0.052	0.025	0.016	0.023	0.30	0.286	0.059	0.175		0.018		0.022	240	69		
0.197	NA19	0.015		0.179		0.058	0.026	0.016	0.024	0.32	0.307	0.063	0.185		0.018		0.020	250	67		
0.219	NA21	0.015		0.196		0.058	0.028	0.017	0.024	0.34	0.324	0.074	0.205		0.018		0.023	280	87		
0.236	NA23	0.015	+ .002 - .005	0.215	+ .002 - .005	0.058	0.030	0.019	0.024	0.36	0.341	0.086	0.222	±.002	0.018	+ .003 - .000	0.023	310	93		
0.250	NA25	0.025		0.225		0.083	0.035	0.025	0.039	0.45	0.430	0.210	0.230		0.029		0.032	880	141		
0.276	NA27	0.025		0.250		0.084	0.035	0.024	0.039	0.48	0.460	0.250	0.255		0.029		0.035	980	164		
0.281	NA28	0.025		0.256		0.083	0.038	0.025	0.039	0.49	0.470	0.240	0.261		0.029		0.033	990	160		
0.312	NA31	0.025		0.281		0.090	0.040	0.026	0.039	0.54	0.520	0.270	0.290		0.029		0.036	1100	194		
0.344	NA34	0.025	±0.002	0.309	+ .005 - .010	0.090	0.042	0.026	0.039	0.57	0.550	0.310	0.321	±.003	0.029	+ .004 - .000	0.038	1210	224		
0.354	NA35	0.025		0.320		0.090	0.046	0.029	0.039	0.59	0.570	0.350	0.330		0.029		0.038	1250	240		
0.375	NA37	0.025		0.338		0.091	0.050	0.030	0.039	0.61	0.590	0.390	0.352		0.029		0.038	1320	244		
0.394	NA39	0.025		0.354		0.090	0.052	0.031	0.039	0.62	0.600	0.420	0.369		0.029		0.041	1390	278		
0.406	NA40	0.025		0.366		0.090	0.054	0.033	0.039	0.63	0.610	0.430	0.382		0.029		0.039	1430	275		
0.438	NA43	0.025	±0.002	0.395	+ .010 - .015	0.091	0.055	0.033	0.039	0.66	0.640	0.500	0.412	±.004	0.029	+ .004 - .000	0.042	1550	322		
0.469	NA46	0.025		0.428		0.091	0.060	0.035	0.039	0.68	0.660	0.540	0.443		0.029		0.042	1660	345		
0.500	NA50	0.035		0.461		0.111	0.065	0.040	0.045	0.77	0.740	0.910	0.468		0.039		0.051	2470	452		
0.551	NA55	0.035		0.509		0.111	0.053	0.036	0.045	0.81	0.780	0.900	0.519		0.039		0.051	2730	500		
0.561	NA56	0.035		0.521		0.111	0.072	0.041	0.045	0.82	0.790	1.100	0.530		0.039		0.051	2780	508		
0.594	NA59	0.035	+ .005 - .010	0.550	+ .005 - .010	0.112	0.076	0.043	0.045	0.86	0.830	1.200	0.559	±.003	0.039	+ .004 - .000	0.057	2940	588		
0.625	NA62	0.035		0.579		0.113	0.080	0.045	0.045	0.90	0.870	1.300	0.588		0.039		0.060	3090	654		
0.672	NA66	0.035		0.621		0.113	0.032	0.043	0.045	0.93	0.880	1.400	0.631		0.039		0.066	3320	780		
0.688	NA68	0.042		0.635		0.140	0.084	0.048	0.050	1.01	0.970	1.800	0.646		0.046		0.068	4080	817		
0.750	NA75	0.042		0.693		0.140	0.092	0.051	0.050	1.09	1.050	2.100	0.704		0.046		0.074	4450	875		
0.781	NA78	0.042	+ .010 - .015	0.722	+ .010 - .015	0.140	0.094	0.052	0.050	1.12	1.080	2.200	0.733	±.004	0.046	+ .004 - .000	0.076	4600	1060		
0.812	NA81	0.042		0.751		0.140	0.096	0.054	0.050	1.15	1.100	2.500	0.762		0.046		0.080	4800	1150		
0.875	NA87	0.042		0.810		0.141	0.104	0.057	0.050	1.21	1.160	2.800	0.821		0.046		0.085	5200	1340		
0.938	NA93	0.042		0.867		0.170	0.110	0.063	0.076	1.34	1.290	3.100	0.882		0.046		0.088	5600	1480		
0.984	NA98	0.042		0.910		0.171	0.114	0.065	0.076	1.39	1.340	3.500	0.926		0.046		0.091	5800	1610		
1.000	NA100	0.042	+ .010 - .015	0.925	+ .010 - .015	0.171	0.116	0.065	0.076	1.41	1.350	3.600	0.940	±.004	0.046	+ .004 - .000	0.094	5900	1700		
1.023	NA102	0.042		0.946		0.172	0.118	0.066	0.076	1.43	1.370	3.900	0.961		0.046		0.097	6100	1790		
1.062	NA106	0.050		0.982		0.185	0.122	0.069	0.076	1.50	1.440	4.800	0.998		0.056		0.102	7500	1920		
1.125	NA112	0.050		1.041		0.186	0.128	0.071	0.076	1.55	1.490	5.100	1.059		0.056		0.105	7900	2100		
1.188	NA118	0.050		1.098		0.186	0.132	0.072	0.076	1.61	1.540	5.600	1.118		0.056		0.111	8400	2350		

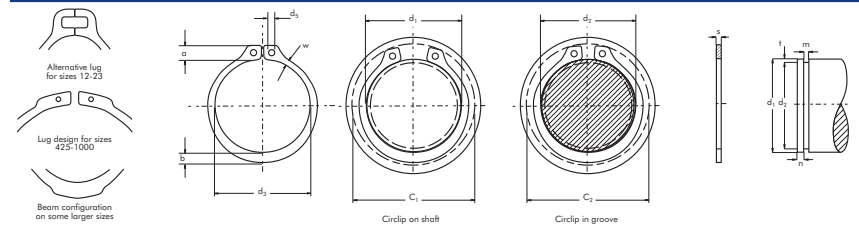
 **Part Number**
 Référence Teile Nummer Referencia de pieza

 **Tolerance**
 Tolérance Toleranz Tolerancia



 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

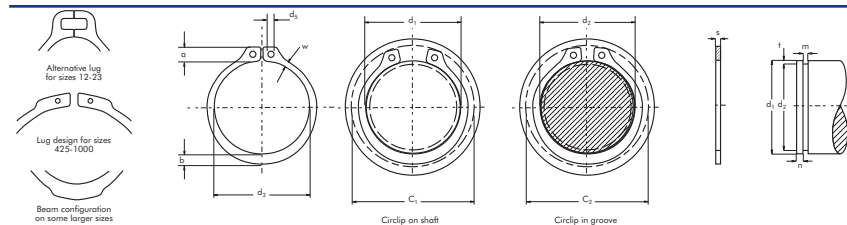
 **Groove**
 Gorge Nut Ranura






Circlips pour arbres cote pouce Sicherungsringe für Wellen Zoll-Standard Anillos para ejes pulgadas standard RINGS FOR SHAFTS INCH STANDARD

d ₁	N1400 NA	s	Δ	d ₃	Δ												D A T A				
						a max.	b ≈	w ~	d ₅ min.	C ₁	C ₂	(lbs/1000)	d ₂	Δ	m	Δ	n min.	T _c	T _g		
1.250	NA125	0.050	±0.002	1.156	+ .010 - .015	0.187	0.140	0.076	0.076	1.69	1.62	5.90	1.176	±.004	0.056	+ .004 - .000	0.117	8800	2610		
1.312	NA131	0.050		1.214		0.187	0.146	0.077	0.076	1.75	1.67	6.80	1.232		0.056		0.126	9300	2970		
1.375	NA137	0.050		1.272		0.188	0.152	0.082	0.076	1.80	1.72	7.20	1.291		0.056		0.132	9700	3270		
1.438	NA143	0.050		1.333		0.188	0.160	0.086	0.076	1.87	1.79	8.10	1.350		0.056		0.138	10200	3580		
1.500	NA151	0.050		1.387		0.218	0.168	0.091	0.118	1.99	1.90	9.00	1.406		0.056		0.147	10600	3990		
1.562	NA156	0.062	±0.003	1.446	+ .013 - .020	0.189	0.180	0.098	0.100	1.95	1.85	11.70	1.468	±.005	0.068	+ .005 - .000	0.148	10700	4150		
1.625	NA162	0.062		1.503		0.239	0.180	0.097	0.100	2.17	2.08	12.80	1.529		0.068		0.151	11100	4410		
1.688	NA168	0.062		1.560		0.205	0.197	0.099	0.100	2.04	1.95	13.20	1.589		0.068		0.156	11500	4720		
1.750	NA175	0.062		1.618		0.205	0.197	0.101	0.100	2.11	2.01	13.80	1.650		0.068		0.157	11900	4950		
1.772	NA177	0.062		1.618		0.205	0.197	0.102	0.100	2.19	2.09	14.10	1.669		0.068		0.162	12100	5160		
1.812	NA181	0.062	±0.003	1.675	+ .015 - .025	0.205	0.197	0.095	0.100	2.23	2.13	14.70	1.708	±.006	0.068	+ .005 - .000	0.163	12400	5330		
1.875	NA187	0.062		1.735		0.205	0.197	0.104	0.100	2.29	2.19	15.50	1.769		0.068		0.166	12800	5620		
1.968	NA196	0.062		1.819		0.205	0.197	0.106	0.123	2.39	2.27	18.20	1.857		0.068		0.174	13400	5170		
2.000	NA200	0.062		1.850		0.232	0.224	0.108	0.123	2.48	2.36	19.20	1.886		0.068		0.178	13600	6450		
2.062	NA206	0.078		1.906		0.225	0.217	0.111	0.123	2.52	2.40	22.60	1.946		0.086		0.183	17700	6760		
2.125	NA212	0.078	±0.003	1.964	+ .015 - .025	0.236	0.228	0.120	0.123	2.61	2.48	24.40	2.003	±.006	0.086	+ .005 - .000	0.192	18200	7330		
2.156	NA215	0.078		1.993		0.225	0.217	0.113	0.123	2.62	2.49	26.60	2.032		0.086		0.195	18500	7560		
2.250	NA225	0.078		2.081		0.272	0.217	0.116	0.123	2.87	2.74	26.00	2.120		0.086		0.204	19300	8270		
2.312	NA231	0.078		2.139		0.272	0.217	0.118	0.123	2.94	2.81	28.40	2.178		0.086		0.210	19800	8760		
2.375	NA237	0.078		2.197		0.236	0.228	0.119	0.123	2.86	2.72	27.90	2.239		0.086		0.213	20400	9130		
2.438	NA243	0.078	±0.003	2.255	+ .020 - .030	0.236	0.228	0.120	0.123	2.92	2.78	29.40	2.299	±.006	0.086	+ .005 - .000	0.217	20900	9580		
2.500	NA250	0.078		2.313		0.236	0.228	0.122	0.123	2.98	2.84	29.20	2.360		0.086		0.219	21400	9900		
2.559	NA255	0.078		2.377		0.258	0.250	0.130	0.123	3.09	2.94	31.70	2.419		0.086		0.219	21900	10100		
2.625	NA262	0.078		2.428		0.236	0.228	0.120	0.123	3.11	2.96	35.00	2.481		0.086		0.225	22500	10700		
2.688	NA268	0.078		2.485		0.273	0.246	0.129	0.123	3.32	3.18	36.00	2.541		0.086		0.230	23000	11200		
2.750	NA275	0.093	±0.003	2.543	+ .020 - .030	0.284	0.276	0.145	0.123	3.33	3.18	47.00	2.206	±.006	0.103	+ .005 - .000	0.231	28100	11500		
2.875	NA287	0.093		2.659		0.268	0.260	0.133	0.123	3.42	3.26	48.40	2.721		0.103		0.240	29400	12500		
2.938	NA293	0.093		2.717		0.268	0.260	0.125	0.123	3.49	3.32	50.00	2.779		0.103		0.247	30000	13200		
3.000	NA300	0.093		2.775		0.268	0.260	0.138	0.123	3.55	3.38	51.50	2.838		0.103		0.252	30700	13700		
3.062	NA306	0.093		2.832		0.268	0.260	0.131	0.123	3.61	3.44	56.80	2.898		0.103		0.255	31300	14200		
3.125	NA312	0.093	±0.003	2.892	+ .020 - .030	0.305	0.272	0.141	0.123	3.75	3.57	57.90	2.957	±.006	0.103	+ .005 - .000	0.261	32000	14800		
3.156	NA315	0.093		2.920		0.284	0.276	0.143	0.123	3.74	3.56	59.00	2.986		0.103		0.264	32300	15200		
3.250	NA325	0.093		3.006		0.284	0.276	0.145	0.123	3.83	3.65	61.90	3.076		0.103		0.270	33200	16000		
3.346	NA334	0.093		3.092		0.284	0.276	0.147	0.123	3.93	3.74	63.90	3.166		0.103		0.279	34200	17000		
3.438	NA343	0.093		3.179		0.284	0.276	0.130	0.123	4.02	3.83	65.90	3.257		0.103		0.280	35200	17600		

 Part Number Référence Teile Nummer Referencia de pieza	 Tolerance Tolérance Toleranz Tolerancia	 Weight Masse Gewicht Peso	 Ring Anneau/Circlips Ring Anillo	 Groove Gorge Nut Ranura
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Circlips pour arbres cote pouce Sicherungsringe für Wellen Zoll-Standard Anillos para ejes pulgadas standard RINGS FOR SHAFTS INCH STANDARD

d ₁	N1400 NA	s															D A T A				
			Δ	d ₃	Δ	a max.	b ≈	w ~	d ₅ min.	C ₁	C ₂	 (lbs/1000)	d ₂	Δ	m	Δ	n min.	Tc	Tg		
3.500	NA350	0.109	±0.003	3.237	+0.020 -0.030	0.320	0.285	0.148	0.123	4.15	3.96	71.90	3.316	±0.006	0.120	+0.005 -0.000	0.285	42000	18200		
3.543	NA354	0.109		3.277		0.320	0.288	0.149	0.123	4.20	4.00	72.90	3.357		0.120		0.288	42500	18600		
3.625	NA362	0.109		3.352		0.323	0.315	0.153	0.123	4.28	4.09	76.00	3.435		0.120		0.294	43400	19500		
3.688	NA368	0.109		3.410		0.335	0.302	0.156	0.123	4.31	4.11	80.00	3.493		0.120		0.301	44200	20300		
3.750	NA375	0.109		3.468		0.337	0.310	0.160	0.123	4.44	4.23	82.90	3.552		0.120		0.306	44900	21000		
3.875	NA387	0.109	±0.003	3.584	+0.020 -0.030	0.335	0.318	0.163	0.123	4.56	4.35	87.90	3.673	±0.006	0.120	+0.005 -0.000	0.312	46400	22100		
3.938	NA393	0.109		3.642		0.323	0.318	0.163	0.123	4.60	4.39	95.00	3.734		0.120		0.315	47200	22700		
4.000	NA400	0.109		3.700		0.352	0.344	0.176	0.123	4.72	4.50	100.00	3.792		0.120		0.321	47900	23500		
4.250	NA425	0.109		3.989		0.323	0.318	0.176	0.123	4.91	4.72	112.00	4.065		0.120		0.287	50900	22200		
4.375	NA437	0.109		4.106		0.323	0.318	0.181	0.123	5.04	4.84	115.00	4.190		0.120		0.287	52400	22900		
4.500	NA450	0.109	±0.004	4.223	+0.020 -0.040	0.323	0.285	0.128	0.123	5.16	4.96	100.00	4.310	±0.007	0.120	+0.006 -0.000	0.294	53900	24200		
4.750	NA475	0.109		4.458		0.437	0.303	0.152	0.123	5.47	5.26	113.00	4.550		0.120		0.309	56900	26900		
5.000	NA500	0.109		4.692		0.445	0.360	0.186	0.151	5.72	5.50	149.00	4.790		0.120		0.324	59900	29700		
5.250	NA525	0.125		4.927		0.457	0.375	0.211	0.151	6.18	5.95	188.00	5.030		0.139		0.339	72200	32700		
5.500	NA550	0.125		5.162		0.457	0.390	0.209	0.151	6.43	6.19	196.00	5.265		0.139		0.363	75600	36500		
5.750	NA575	0.125	±0.004	5.396	+0.020 -0.050	0.457	0.408	0.220	0.151	6.68	6.43	210.00	5.505	±0.007	0.139	+0.006 -0.000	0.378	79000	39800		
6.000	NA600	0.125		5.631		0.457	0.381	0.171	0.171	6.93	6.67	220.00	5.745		0.139		0.393	82500	43300		
6.250	NA625	0.156		5.866		0.508	0.396	0.176	0.176	7.28	7.01	282.00	5.985		0.174		0.409	107000	46800		
6.500	NA650	0.156		6.100		0.508	0.438	0.236	0.236	7.53	7.25	330.00	6.225		0.174		0.425	112000	50500		
6.750	NA675	0.156		6.335		0.508	0.456	0.246	0.246	7.78	7.49	356.00	6.465		0.174		0.440	116000	54400		
7.000	NA700	0.156	±0.005	6.570	+0.020 -0.100	0.508	0.460	0.256	0.256	8.03	7.73	371.00	6.705	±0.008	0.174	+0.008 -0.000	0.455	120000	58400		
7.500	NA750	0.187		7.039		0.632	0.507	0.269	0.269	8.78	8.45	534.00	7.180		0.209		0.492	143000	67900		
8.000	NA800	0.187		7.508		0.632	0.540	0.275	0.275	9.27	8.93	540.00	7.660		0.209		0.522	153000	76900		
8.500	NA850	0.187		7.977		0.632	0.573	0.300	0.300	9.78	9.41	692.00	8.140		0.209		0.552	163000	86500		
9.000	NA900	0.187		8.445		0.632	0.609	0.410	0.410	10.25	9.87	737.00	8.620		0.209		0.582	172000	96700		
9.500	NA950	0.187	±0.005	8.915	+0.020 -0.100	0.632	0.625	0.420	0.420	10.78	10.38	785.00	9.100	±0.008	0.209	+0.008 -0.000	0.612	181000	107400		
10.000	NA1000	0.187		9.385		0.632	0.625	0.370	0.370	11.27	10.85	910.00	9.575		0.209		0.650	191000	120200		

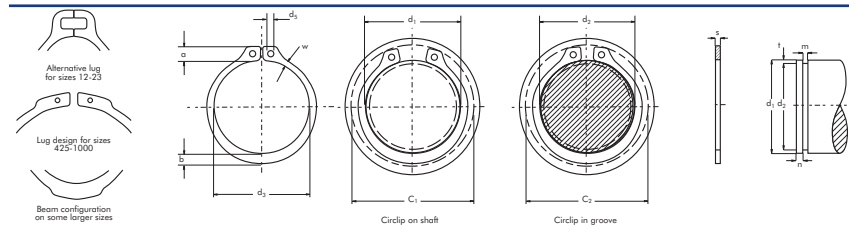
 **Part Number**
 Référence Teile Nummer Referencia de pieza

 **Tolerance**
 Tolérance Toleranz Tolerancia




 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



Circlips pour alésages Sicherungsringe für Bohrungen Anillos para agujeros RINGS FOR BORES

d ₁	DIN 472 D1300 J															D A T A							
		s	Δ	d ₃	Δ	a max.	b =	d _{5 min.}	C ₁	C ₂	 (kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	$\frac{K}{(kN \cdot mm)}$	
8	J8	0.80	-0.05	8.7	+0.36 -0.10	2.4	1.1	1.0	3.0	3.6	0.10	8.4	+0.09	0.90	0.20	0.6	0.86	2.0	0.5	1.5	5.1	9.25	
9	J9	0.80		9.8		2.5	1.3	1.0	3.7	4.4	0.13	9.4		0.90	0.20	0.6	0.96	2.0	0.5	1.5	5.7	8.40	
10	J10	1.00		10.8		3.2	1.4	1.2	3.3	4.0	0.26	10.4		1.10	0.20	0.6	1.08	4.0	0.5	2.2	6.4	19.60	
11	J11	1.00		11.8		3.3	1.5	1.2	4.1	4.8	0.31	11.4		1.10	0.20	0.6	1.17	4.0	0.5	2.3	7.0	21.00	
12	J12	1.00		13.0		3.4	1.7	1.5	4.9	5.7	0.37	12.5		1.10	0.25	0.8	1.60	4.0	0.5	2.3	9.6	20.20	
13	J13	1.00		14.1		3.6	1.8	1.5	5.4	6.4	0.42	13.6		+0.11	1.10	0.30	0.9	2.10	4.2	0.5	2.3	12.5	20.30
14	J14	1.00		15.1		3.7	1.8	1.7	6.2	7.2	0.52	14.6			1.10	0.30	0.9	2.10	4.5	0.5	2.3	13.4	19.70
15	J15	1.00		16.2		3.7	2.0	1.7	7.2	8.3	0.56	15.7			1.10	0.35	1.1	2.80	5.0	0.5	2.3	16.8	19.00
16	J16	1.00		17.3		3.8	2.0	1.7	8.0	9.2	0.60	16.8			1.10	0.40	1.2	3.40	5.5	1.0	2.6	20.6	18.40
17	J17	1.00		18.3		3.9	2.1	1.7	8.8	10.0	0.65	17.8			1.10	0.40	1.2	3.60	6.0	1.0	2.5	21.8	18.10
18	J18	1.00		19.5		4.1	2.2	2.0	9.4	10.8	0.74	19.0		+0.13	1.10	0.50	1.5	4.80	6.5	1.0	2.6	29.0	18.20
19	J19	1.00		20.5		4.1	2.2	2.0	10.4	11.8	0.83	20.0			1.10	0.50	1.5	5.10	6.8	1.0	2.6	30.6	17.20
20	J20	1.00		21.5		4.1	2.3	2.0	11.2	12.6	0.90	21.0			1.10	0.50	1.5	5.40	7.2	1.0	2.6	32.2	16.90
21	J21	1.00		22.5		4.2	2.4	2.0	12.2	13.6	1.00	22.0			1.10	0.50	1.5	5.70	7.6	1.0	2.6	33.8	17.20
22	J22	1.00		23.5		4.2	2.5	2.0	13.2	14.6	1.10	23.0			1.10	0.50	1.5	5.90	8.0	1.0	2.7	35.3	17.60
23	J23	1.20		24.6		4.2	2.5	2.0	14.2	15.7	1.34	24.1		+0.21	1.30	0.55	1.7	6.80	8.0	1.0	4.6	40.7	28.80
24	J24	1.20		25.9		4.3	2.6	2.0	14.8	16.4	1.42	25.2			1.30	0.60	1.8	7.70	13.9	1.0	4.6	46.3	28.40
25	J25	1.20	26.9	4.5	2.7	2.0	15.5	17.2	1.50	26.2	1.30	0.60	1.8		8.00	14.6	1.0	4.7	48.2	29.00			
26	J26	1.20	27.9	4.7	2.8	2.0	16.1	17.8	1.60	27.2	1.30	0.60	1.8		8.40	13.8	1.0	4.6	50.1	27.80			
27	J27	1.20	29.1	4.7	2.9	2.0	17.1	19.0	1.75	28.4	1.30	0.70	2.1		10.10	13.3	1.0	4.5	60.9	26.60			
28	J28	1.20	30.1	4.8	2.9	2.0	17.9	19.8	1.80	29.4	+0.25	1.30	0.70	2.1	10.50	13.3	1.0	4.5	63.1	26.30			
29	J29	1.20	31.1	4.8	3.0	2.0	18.9	20.8	1.88	30.4		1.30	0.70	2.1	10.90	13.6	1.0	4.6	65.3	26.80			
30	J30	1.20	32.1	4.8	3.0	2.0	19.9	21.8	2.06	31.4		1.30	0.70	2.1	11.30	13.7	1.0	4.6	67.5	26.60			
31	J31	1.20	33.4	5.2	3.1	2.5	20.0	22.3	2.10	32.7		1.30	0.85	2.6	14.10	13.8	1.0	4.7	84.8	26.80			
32	J32	1.20	34.4	5.4	3.2	2.5	20.6	22.9	2.21	33.7		1.30	0.85	2.6	14.60	13.8	1.0	4.7	87.9	26.60			
33	J33	1.20	35.5	5.4	3.3	2.5	21.6	23.9	2.40	34.7	+0.25	1.30	0.85	2.6	15.00	14.3	1.0	4.9	90.3	27.00			
34	J34	1.50	36.5	5.4	3.3	2.5	22.6	24.9	3.20	35.7		1.60	0.85	2.6	15.40	26.2	1.5	6.3	92.6	50.00			
35	J35	1.50	37.8	5.4	3.4	2.5	23.6	26.2	3.54	37.0		1.60	1.00	3.0	18.80	26.9	1.5	6.4	113.0	50.50			
36	J36	1.50	38.8	5.4	3.5	2.5	24.6	27.2	3.70	38.0		1.60	1.00	3.0	19.40	26.4	1.5	6.4	116.0	50.20			
37	J37	1.50	39.8	5.5	3.6	2.5	25.4	28.0	3.74	39.0		1.60	1.00	3.0	19.80	27.1	1.5	6.5	119.0	51.00			
38	J38	1.50	40.8	5.5	3.7	2.5	26.4	29.0	3.90	40.0	+0.90 -0.39	1.60	1.00	3.0	22.50	28.2	1.5	6.7	123.0	51.70			
39	J39	1.50	42.0	5.6	3.8	2.5	27.3	29.8	4.00	41.0		1.60	1.00	3.0	26.00	28.8	1.5	6.9	126.0	52.40			
40	J40	1.75	43.5	5.8	3.9	2.5	27.8	30.9	4.70	42.5		1.85	1.25	3.8	27.00	44.6	2.0	8.3	162.0	80.10			
41	J41	1.75	44.5	5.9	4.0	2.5	28.6	31.7	5.10	43.5		1.85	1.25	3.8	27.60	45.0	2.0	8.3	166.0	81.20			
42	J42	1.75	45.5	5.9	4.1	2.5	29.6	32.7	5.40	44.5		1.85	1.25	3.8	28.40	44.7	2.0	8.4	170.0	80.90			

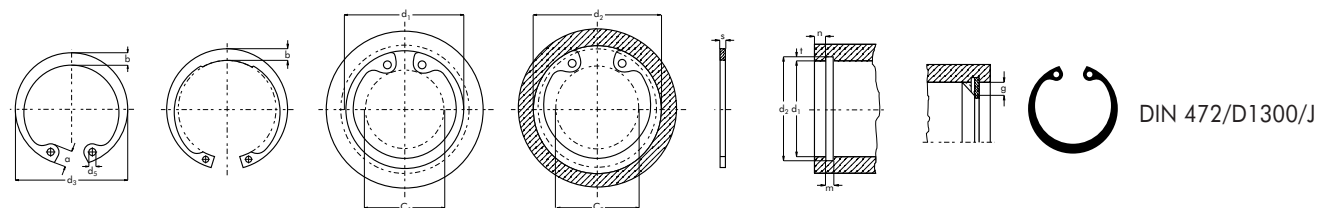
 **Part Number**
 Référence Teile Nummer Referencia de pieza




 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



d ₁	DIN 472 D1300 J															D A T A						
		s	Δ	d ₃	Δ	a max.	b ≈	d ₅ min.	C ₁	C ₂	 (kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	$\frac{K}{B}$ (kN·mm)
43	J43	1.75	-0.06	46.5	+0.90 -0.39	5.9	4.2	2.5	30.6	33.7	5.60	45.5	+0.25	1.85	1.25	3.8	28.80	44.5	2.0	8.4	173	80.5
44	J44	1.75		47.5		6.0	4.2	2.5	31.4	34.5	5.80	46.5		1.85	1.25	3.8	29.50	43.3	2.0	8.3	177	78.6
45	J45	1.75		48.5		6.2	4.3	2.5	32.0	35.1	6.00	47.5		1.85	1.25	3.8	30.20	43.1	2.0	8.2	181	78.1
46	J46	1.75		49.5		6.3	4.4	2.5	32.8	35.9	6.05	48.5		1.85	1.25	3.8	30.80	42.9	2.0	8.2	185	77.8
47	J47	1.75		50.5		6.4	4.4	2.5	33.5	36.7	6.10	49.5		1.85	1.25	3.8	31.40	43.5	2.0	8.3	189	78.9
48	J48	1.75	-0.07	51.5	+1.10 -0.46	6.4	4.5	2.5	34.5	37.7	6.70	50.5	+0.30	1.85	1.25	3.8	32.00	43.2	2.0	8.4	193	78.5
50	J50	2.00		54.2		6.5	4.6	2.5	36.3	40.0	7.30	53.0		2.15	1.50	4.5	40.50	60.8	2.0	12.1	243	111.0
51	J51	2.00		55.2		6.5	4.7	2.5	37.3	41.0	7.75	54.0		2.15	1.50	4.5	41.20	60.2	2.0	12.0	247	109.0
52	J52	2.00		56.2		6.7	4.7	2.5	37.9	41.6	8.20	55.0		2.15	1.50	4.5	42.00	60.2	2.0	12.0	252	108.0
53	J53	2.00		57.2		6.7	4.9	2.5	39.0	42.6	8.22	56.0		2.15	1.50	4.5	42.90	60.7	2.0	12.1	257	110.0
54	J54	2.00	-0.07	58.2	+1.30 -0.54	6.7	5.0	2.5	40.0	43.6	8.25	57.0	+0.35	2.15	1.50	4.5	43.60	60.4	2.0	12.3	262	110.0
55	J55	2.00		59.2		6.8	5.0	2.5	40.7	44.4	8.30	58.0		2.15	1.50	4.5	44.40	60.3	2.0	12.5	266	111.0
56	J56	2.00		60.2		6.8	5.1	2.5	41.7	45.4	8.80	59.0		2.15	1.50	4.5	45.20	60.3	2.0	12.6	271	111.0
57	J57	2.00		61.2		6.8	5.1	2.5	42.7	46.4	9.40	60.0		2.15	1.50	4.5	46.00	60.8	2.0	12.7	276	112.0
58	J58	2.00		62.2		6.9	5.2	2.5	43.5	47.2	10.50	61.0		2.15	1.50	4.5	46.70	60.8	2.0	12.7	280	112.0
60	J60	2.00	-0.07	64.2	+1.30 -0.54	7.3	5.4	2.5	44.7	48.4	11.10	63.0	+0.30	2.15	1.50	4.5	48.30	61.0	2.0	13.0	290	113.0
62	J62	2.00		66.2		7.3	5.5	2.5	46.7	50.4	11.20	65.0		2.15	1.50	4.5	49.80	60.9	2.0	13.0	299	112.0
63	J63	2.00		67.2		7.3	5.6	2.5	47.7	51.4	12.40	66.0		2.15	1.50	4.5	50.60	60.8	2.0	13.0	304	112.0
64	J64	2.00		68.2		7.4	5.7	2.5	48.7	52.4	12.45	67.0		2.15	1.50	4.5	51.40	60.6	2.0	13.0	308	112.0
65	J65	2.50		69.2		7.6	5.8	3.0	49.0	52.8	14.30	68.0		2.65	1.50	4.5	51.80	121.0	2.5	20.8	313	220.0
67	J67	2.50	-0.07	71.5	+1.30 -0.54	7.7	6.0	3.0	50.8	54.6	15.30	70.0	+0.30	2.65	1.50	4.5	53.80	121.0	2.5	21.1	323	222.0
68	J68	2.50		72.5		7.8	6.1	3.0	51.6	55.4	16.00	71.0		2.65	1.50	4.5	56.20	119.0	2.5	21.0	337	218.0
70	J70	2.50		74.5		7.8	6.2	3.0	53.6	57.4	16.50	73.0		2.65	1.50	4.5	56.20	119.0	2.5	21.0	337	218.0
72	J72	2.50		76.5		7.8	6.4	3.0	55.6	59.4	18.10	75.0		2.65	1.50	4.5	58.00	119.0	2.5	21.0	346	217.0
75	J75	2.50		79.5		7.8	6.6	3.0	58.6	62.4	18.80	78.0		2.65	1.50	4.5	60.00	118.0	2.5	21.0	360	215.0
77	J77	2.50	-0.08	82.5	+1.30 -0.54	8.5	6.8	3.0	59.2	63.0	20.40	80.0	+0.35	2.65	1.50	4.5	61.60	121.0	2.5	21.5	370	220.0
78	J77	2.50		82.5		8.5	6.8	3.0	60.1	64.0	20.40	81.0		2.65	1.50	4.5	62.30	122.0	2.5	21.8	374	221.0
80	J80	2.50		85.5		8.5	7.0	3.0	62.1	66.5	22.00	83.5		2.65	1.75	5.3	74.60	120.0	2.5	21.8	448	219.0
81	J81	2.50		86.5		8.5	7.0	3.0	62.2		23.00	84.5		2.65	1.75	5.3	75.80	119.0	2.5	21.6	455	216.0
82	J82	2.50		87.5		8.5	7.0	3.0	64.1	68.5	24.00	85.5		2.65	1.75	5.3	76.60	119.0	2.5	21.4	460	214.0
83	J83	2.50	-0.08	88.5	+1.30 -0.54	8.5	7.0	3.0	65.2	69.5	25.00	86.5	+0.35	2.65	1.75	5.3	77.50	118.0	2.5	21.2	466	213.0
85	J85	3.00		90.5		8.6	7.2	3.5	66.9	71.3	25.30	88.5		3.15	1.75	5.3	79.50	201.0	3.0	31.2	477	364.0
87	J87	3.00		93.5		8.6	7.4	3.5	69.0	73.3	31.00	90.5		3.15	1.75	5.3	81.30	204.0	3.0	31.8	488	370.0
88	J87	3.00		93.5		8.6	7.4	3.5	69.9	74.3	31.00	91.5		3.15	1.75	5.3	82.00	209.0	3.0	32.7	493	380.0
90	J90	3.00		95.5		8.6	7.6	3.5	71.9	76.3	33.00	93.5		3.15	1.75	5.3	84.00	199.0	3.0	31.4	504	364.0

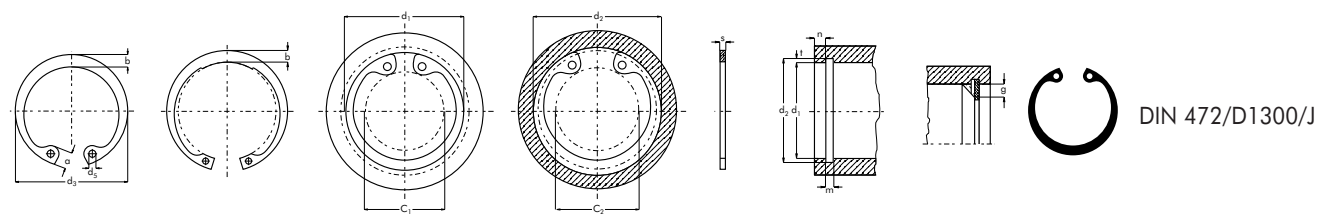
 **Part Number**
 Référence Teile Nummer Referencia de pieza

 **Tolerance**
 Tolérance Toleranz Tolerancia




 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



Circlips pour alésages Sicherungsringe für Bohrungen Anillos para agujeros RINGS FOR BORES

d ₁	DIN 472 D1300 J															D A T A							
		s	Δ	d ₃	Δ	a max.	b =	d _{5 min.}	C ₁	C ₂	 (kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	^K _B (kN•mm)	
92	J92	3.00	-0.08	97.5	+1.30 -0.54	8.7	7.8	3.5	73.7	78.1	35.0	95.5	+0.35	3.15	1.75	5.3	85.0	201	3.0	32.0	515	371	
95	J95	3.00		100.5		8.8	8.1	3.5	76.5	80.9	37.0	98.5		98.5	3.15	1.75	5.3	88.0	195	3.0	31.4	532	365
97	J98	3.00		103.5		9.0	8.3	3.5	78.1	82.5	41.0	100.5		100.5	3.15	1.75	5.3	90.0	193	3.0	31.2	543	364
98	J98	3.00		103.5		9.0	8.3	3.5	79.0	83.5	41.0	101.5		101.5	3.15	1.75	5.3	91.0	191	3.0	31.0	548	361
100	J100	3.00		105.5		9.2	8.4	3.5	80.6	85.1	42.0	103.5		103.5	3.15	1.75	5.3	93.0	188	3.0	30.8	559	359
102	J102	4.00	-0.10	108.0	+1.50 -0.63	9.5	8.5	3.5	82.0	87.0	55.0	106.0	+0.54	4.15	2.00	6.0	108.0	439	3.0	72.6	653	846	
105	J105	4.00		112.0		9.5	8.7	3.5	85.0	90.0	56.0	109.0		109.0	4.15	2.00	6.0	112.0	436	3.0	73.0	672	850
107	J108	4.00		115.0		9.5	8.9	3.5	87.0	92.0	60.0	111.0		111.0	4.15	2.00	6.0	114.0	425	3.0	71.6	684	834
108	J108	4.00		115.0		9.5	8.9	3.5	88.0	93.0	60.0	112.0		112.0	4.15	2.00	6.0	115.0	419	3.0	71.0	691	825
110	J110	4.00		117.0		10.4	9.0	3.5	88.2	93.2	64.5	114.0		114.0	4.15	2.00	6.0	117.0	415	3.0	71.0	704	824
112	J112	4.00	-0.10	119.0	+1.50 -0.63	10.5	9.1	3.5	90.0	95.0	72.0	116.0	+0.63	4.15	2.00	6.0	119.0	418	3.0	72.0	715	837	
115	J115	4.00		122.0		10.5	9.3	3.5	93.0	98.0	74.5	119.0		119.0	4.15	2.00	6.0	122.0	409	3.0	71.2	735	829
117	J118	4.00		125.0		10.7	9.6	3.5	94.6	99.6	75.5	121.0		121.0	4.15	2.00	6.0	124.0	399	3.0	70.0	747	814
118	J118	4.00		125.0		10.7	9.6	3.5	95.6	100.6	75.5	122.0		122.0	4.15	2.00	6.0	125.0	394	3.0	69.3	754	807
120	J120	4.00		127.0		11.0	9.7	3.5	96.9	102.0	77.0	124.0		124.0	4.15	2.00	6.0	127.0	396	3.0	70.0	767	818
122	J122	4.00	-0.10	129.0	+1.50 -0.63	11.0	9.8	4.0	98.0	104.0	78.0	126.0	+0.63	4.15	2.00	6.0	129.0	399	3.0	71.0	779	829	
125	J125	4.00		132.0		11.0	10.0	4.0	101.9	107.0	79.0	129.0		129.0	4.15	2.00	6.0	132.0	385	3.0	70.0	797	809
127	J128	4.00		135.0		11.0	10.0	4.0	103.9	109.0	81.0	131.0		131.0	4.15	2.00	6.0	135.0	383	3.0	70.0	810	808
128	J128	4.00		135.0		11.0	10.2	4.0	104.9	110.0	81.0	132.0		132.0	4.15	2.00	6.0	136.0	378	3.0	69.0	816	802
130	J130	4.00		137.0		11.0	10.2	4.0	106.9	112.0	82.0	134.0		134.0	4.15	2.00	6.0	138.0	374	3.0	69.0	829	801
132	J132	4.00	-0.10	139.0	+1.50 -0.63	11.0	10.3	4.0	108.9	114.0	83.0	136.0	+0.63	4.15	2.00	6.0	140.0	366	3.0	68.0	842	789	
135	J135	4.00		142.0		11.2	10.5	4.0	111.5	116.0	84.0	139.0		139.0	4.15	2.00	6.0	143.0	358	3.0	67.0	860	781
137	J138	4.00		145.0		11.2	10.6	4.0	113.5	118.6	86.0	141.0		141.0	4.15	2.00	6.0	145.0	356	3.0	67.0	874	780
138	J138	4.00		145.0		11.2	10.6	4.0	114.5	119.6	86.0	142.0		142.0	4.15	2.00	6.0	146.0	352	3.0	66.5	880	775
140	J140	4.00		147.0		11.2	10.7	4.0	116.5	121.0	87.5	144.0		144.0	4.15	2.00	6.0	148.0	350	3.0	66.5	892	775
142	J142	4.00	-0.10	149.0	+1.50 -0.63	11.3	10.8	4.0	118.3	123.4	89.0	146.0	+0.63	4.15	2.00	6.0	150.0	342	3.0	65.5	905	764	
145	J145	4.00		152.0		11.4	10.9	4.0	121.0	126.0	93.0	149.0		149.0	4.15	2.00	6.0	153.0	336	3.0	65.0	923	757
147	J148	4.00		155.0		11.8	11.1	4.0	122.2	127.4	100.0	151.0		151.0	4.15	2.00	6.0	156.0	336	3.0	65.0	936	757
148	J148	4.00		155.0		11.8	11.1	4.0	123.2	128.4	100.0	152.0		152.0	4.15	2.00	6.0	157.0	331	3.0	64.5	942	753
150	J150	4.00		158.0		12.0	11.2	4.0	124.8	131.0	105.0	155.0		155.0	4.15	2.50	7.5	191.0	326	3.0	64.0	1198	748
152	J152	4.00	-0.10	161.0	+1.50 -0.63	12.0	11.3	4.0	126.8	133.0	106.0	157.0	+0.63	4.15	2.50	7.5	202.0	326	3.5	55.0	1212	747	
155	J155	4.00		164.0		12.0	11.4	4.0	129.8	136.0	107.0	160.0		160.0	4.15	2.50	7.5	206.0	324	3.5	55.0	1237	743
157	J158	4.00		167.0		12.3	11.5	4.0	131.2	137.4	109.0	162.0		162.0	4.15	2.50	7.5	208.0	328	3.5	55.5	1251	752
158	J158	4.00		167.0		12.3	11.5	4.0	132.2	138.4	109.0	163.0		163.0	4.15	2.50	7.5	210.0	326	3.5	55.0	1260	747
160	J160	4.00		169.0		13.0	11.6	4.0	132.7	139.0	110.0	165.0		165.0	4.15	2.50	7.5	212.0	321	3.5	54.5	1275	737

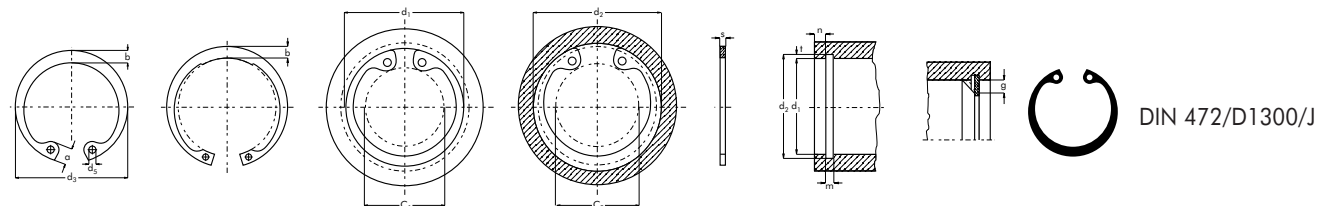
 **Part Number**
 Référence Teile Nummer Referencia de pieza




 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



d ₁	DIN 472 D1300 J															D A T A						
		s	Δ	d ₃	Δ	a max.	b ≈	d ₅ min.	C ₁	C ₂	 (kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	$\frac{K}{B}$ (kN•mm)
162	J162	4.00	+1.50 -0.63	171.5	-0.63	13.0	11.7	4.0	134.7	141.0	118.0	167.0	+0.63	4.15	2.50	7.5	215.0	321	3.5	54.5	1290	736
165	J165	4.00		174.5		13.0	11.8	4.0	137.7	144.0	125.0	170.0		4.15	2.50	7.5	219.0	319	3.5	54.0	1315	732
167	J168	4.00		177.5		13.5	12.1	4.0	138.7	145.0	135.0	172.0		4.15	2.50	7.5	221.0	355	3.5	60.0	1330	814
168	J168	4.00		177.5		13.5	12.1	4.0	139.7	146.0	135.0	173.0		4.15	2.50	7.5	223.0	353	3.5	60.0	1339	810
170	J170	4.00		179.5		13.5	12.2	4.0	141.6	148.0	140.0	175.0		4.15	2.50	7.5	225.0	349	3.5	59.0	1355	800
172	J172	4.00	-0.10	181.5	-0.10	13.5	12.5	4.0	143.6	150.0	145.0	177.0	+0.72	4.15	2.50	7.5	228.0	357	3.5	60.0	1370	818
175	J175	4.00		184.5		13.5	12.7	4.0	146.6	153.0	150.0	180.0		4.15	2.50	7.5	232.0	351	3.5	59.0	1393	804
177	J178	4.00		187.5		14.2	12.9	4.0	147.0	153.6	162.0	182.0		4.15	2.50	7.5	235.0	346	3.5	58.5	1410	794
178	J178	4.00		187.5		14.2	12.9	4.0	148.0	154.6	162.0	183.0		4.15	2.50	7.5	236.0	344	3.5	58.0	1418	789
180	J180	4.00		189.5		14.2	13.2	4.0	150.2	156.0	165.0	185.0		4.15	2.50	7.5	238.0	347	3.5	58.5	1432	796
182	J182	4.00	-0.10	191.5	-0.10	14.2	13.5	4.0	152.0	158.6	168.0	187.0	+0.72	4.15	2.50	7.5	241.0	355	3.5	60.0	1449	814
185	J185	4.00		194.5		14.2	13.7	4.0	155.2	161.0	170.0	190.0		4.15	2.50	7.5	245.0	349	3.5	59.0	1471	800
187	J188	4.00		197.5		14.2	13.8	4.0	157.0	163.6	174.0	192.0		4.15	2.50	7.5	248.0	345	3.5	58.5	1490	792
188	J188	4.00		197.5		14.2	13.8	4.0	158.0	164.6	174.0	193.0		4.15	2.50	7.5	249.0	343	3.5	58.0	1495	786
190	J190	4.00		199.5		14.2	13.8	4.0	160.2	166.0	175.0	195.0		4.15	2.50	7.5	251.0	340	3.5	57.5	1510	779
192	J192	4.00	-0.10	201.5	+1.70 -0.72	14.2	13.8	4.0	162.0	168.6	178.0	197.0	+0.72	4.15	2.50	7.5	254.0	336	3.5	57.0	1528	770
195	J195	4.00		204.5		14.2	13.8	4.0	165.2	171.0	183.0	200.0		4.15	2.50	7.5	258.0	330	3.5	55.5	1550	756
197	J198	4.00		207.5		14.2	14.0	4.0	166.0	173.6	190.0	202.0		4.15	2.50	7.5	260.0	330	3.5	55.5	1565	756
198	J198	4.00		207.5		14.2	14.0	4.0	168.0	174.6	190.0	203.0		4.15	2.50	7.5	262.0	329	3.5	55.5	1575	754
200	J200	4.00		209.5		14.2	14.0	4.0	170.2	176.0	195.0	205.0		4.15	2.50	7.5	265.0	325	3.5	55.0	1590	745
202	J202	5.00	-0.12	214.0	-0.12	14.2	14.0	4.0	172.0	179.6	210.0	208.0	+0.72	5.15	3.00	9.0	321.0	625	4.0	92.5	1930	1432
205	J205	5.00		217.0		14.2	14.0	4.0	175.0	182.6	225.0	211.0		5.15	3.00	9.0	326.0	616	4.0	91.5	1960	1411
207	J205	5.00		217.0		14.2	14.0	4.0	177.0	184.6	225.0	213.0		5.15	3.00	9.0	329.0	610	4.0	90.0	1979	1399
208	J210	5.00		222.0		14.2	14.0	4.0	178.0	185.6	270.0	214.0		5.15	3.00	9.0	331.0	607	4.0	90.0	1990	1392
210	J210	5.00		222.0		14.2	14.0	4.0	180.2	187.0	270.0	216.0		5.15	3.00	9.0	333.0	601	4.0	89.5	2002	1378
212	J212	5.00	-0.12	222.0	-0.12	14.2	14.0	4.0	182.0	189.6	270.0	218.0	+0.72	5.15	3.00	9.0	337.0	596	4.0	88.5	2025	1367
215	J215	5.00		227.0		14.2	14.0	4.0	185.0	192.6	300.0	221.0		5.15	3.00	9.0	341.0	586	4.0	87.0	2050	1343
217	J215	5.00		227.0		14.2	14.0	4.0	187.0	194.6	300.0	223.0		5.15	3.00	9.0	345.0	581	4.0	86.0	2072	1331
218	J220	5.00		232.0		14.2	14.0	4.0	188.0	195.6	315.0	224.0		5.15	3.00	9.0	346.0	580	4.0	86.0	2080	1329
220	J220	5.00		232.0		14.2	14.0	4.0	190.2	197.0	315.0	226.0		5.15	3.00	9.0	349.0	574	4.0	85.0	2095	1316
222	J222	5.00	-0.12	232.0	-0.12	14.2	14.0	4.0	192.0	199.6	315.0	228.0	+0.72	5.15	3.00	9.0	353.0	568	4.0	84.0	2120	1303
225	J225	5.00		237.0		14.2	14.0	4.0	195.0	202.6	323.0	231.0		5.15	3.00	9.0	357.0	560	4.0	83.0	2145	1283
227	J225	5.00		237.0		14.2	14.0	4.0	195.0	204.6	323.0	233.0		5.15	3.00	9.0	361.0	555	4.0	82.0	2170	1271
228	J230	5.00		242.0		14.2	14.0	4.0	198.0	205.6	330.0	234.0		5.15	3.00	9.0	362.0	554	4.0	82.0	2175	1268
230	J230	5.00		242.0		14.2	14.0	4.0	200.2	207.0	330.0	236.0		5.15	3.00	9.0	365.0	549	4.0	81.0	2196	1259

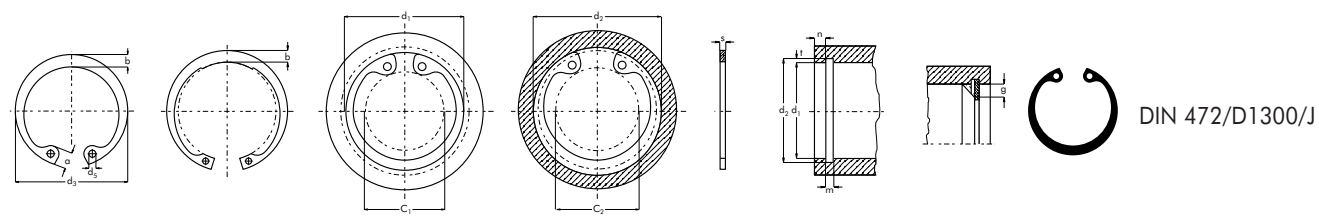
 **Part Number**
 Référence Teile Nummer Referencia de pieza

 **Tolerance**
 Tolérance Toleranz Tolerancia


 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



Circlips pour alésages Sicherungsringe für Bohrungen Anillos para agujeros RINGS FOR BORES

d ₁	DIN 472 D1300 J	s	Δ	d ₃	Δ	○						⊕				D A T A						
						a max.	b =	d _{5 min.}	C ₁	C ₂	 (kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	^K _B (kN•mm)
232	J232	5.00		242.0		14.2	14.0	4.0	202.0	209.6	330	238	+0.72	5.15	3.00	9.0	369	544	4.0	80.50	2215	1246
235	J235	5.00		247.0		14.2	14.0	4.0	205.0	212.6	338	241		5.15	3.00	9.0	373	536	4.0	79.50	2240	1229
237	J235	5.00		247.0		14.2	14.0	4.0	207.0	214.6	338	243		5.15	3.00	9.0	376	531	4.0	79.00	2260	1217
238	J240	5.00		252.0		14.2	14.0	4.0	208.0	215.6	345	244		5.15	3.00	9.0	378	530	4.0	79.00	2270	1214
240	J240	5.00		252.0		14.2	14.0	4.0	210.2	217.0	345	246		5.15	3.00	9.0	380	525	4.0	77.50	2285	1204
242	J242	5.00		252.0		14.2	14.0	4.0	212.0	219.6	345	248		5.15	3.00	9.0	385	521	4.0	77.00	2310	1194
245	J245	5.00		257.0		14.2	14.0	4.0	215.0	222.6	353	251		5.15	3.00	9.0	389	514	4.0	76.50	2335	1178
247	J245	5.00		257.0		14.2	14.0	4.0	217.0	224.6	353	253		5.15	3.00	9.0	392	509	4.0	76.00	2365	1167
248	J250	5.00		262.0		14.2	14.0	4.0	218.0	225.6	360	254		5.15	3.00	9.0	394	507	4.0	75.50	2365	1163
250	J250	5.00		262.0		14.2	14.0	4.0	220.2	227.0	360	256		5.15	3.00	9.0	396	504	4.0	75.00	2380	1155
252	J252	5.00		262.0		14.2	16.0	5.0	222.0	231.6	360	260	5.15	4.00	12.0	535	557	4.0	83.00	3215	1277	
255	J255	5.00		270.0		16.2	16.0	5.0	221.0	230.6	368	263	5.15	4.00	12.0	541	549	4.0	81.50	3250	1259	
257	J255	5.00		270.0		16.2	16.0	5.0	223.0	232.6	368	265	5.15	4.00	12.0	546	545	4.0	81.00	3280	1249	
258	J260	5.00		275.0		16.2	16.0	5.0	224.0	233.6	375	266	5.15	4.00	12.0	548	543	4.0	80.50	3290	1244	
260	J260	5.00		275.0		16.2	16.0	5.0	226.0	235.0	375	268	5.15	4.00	12.0	553	538	4.0	80.00	3320	1234	
262	J262	5.00	-0.12	275.0	+2.00 -0.81	16.2	16.0	5.0	228.0	237.6	375	270	+0.81	5.15	4.00	12.0	556	535	4.0	79.00	3340	1227
265	J265	5.00		280.0		16.2	16.0	5.0	231.0	240.6	383	273		5.15	4.00	12.0	563	528	4.0	78.50	3380	1210
267	J265	5.00		280.0		16.2	16.0	5.0	233.0	242.6	383	275		5.15	4.00	12.0	566	524	4.0	78.00	3400	1201
268	J270	5.00		285.0		16.2	16.0	5.0	234.0	243.6	388	276		5.15	4.00	12.0	570	522	4.0	77.50	3420	1196
270	J270	5.00		285.0		16.2	16.0	5.0	236.0	245.0	388	278		5.15	4.00	12.0	573	518	4.0	77.00	3440	1188
272	J272	5.00		285.0		16.2	16.0	5.0	238.0	247.6	388	280		5.15	4.00	12.0	577	515	4.0	76.50	3465	1180
275	J275	5.00		290.0		16.2	16.0	5.0	241.0	250.6	393	283		5.15	4.00	12.0	585	509	4.0	75.50	3510	1167
277	J275	5.00		290.0		16.2	16.0	5.0	243.0	252.6	393	285		5.15	4.00	12.0	587	505	4.0	75.00	3525	1158
278	J280	5.00		295.0		16.2	16.0	5.0	244.0	253.6	400	286		5.15	4.00	12.0	590	504	4.0	75.00	3540	1154
280	J280	5.00		295.0		16.2	16.0	5.0	246.0	255.0	400	288		5.15	4.00	12.0	593	499	4.0	74.00	3560	1145
282	J282	5.00	295.0	16.2	16.0	5.0	248.0	257.6	400	290	5.15	4.00	12.0	599	497	4.0	74.00	3595	1138			
285	J285	5.00	300.0	16.2	16.0	5.0	251.0	260.0	408	293	5.15	4.00	12.0	605	491	4.0	73.00	3630	1124			
287	J285	5.00	300.0	16.2	16.0	5.0	253.0	262.6	408	295	5.15	4.00	12.0	610	487	4.0	72.00	3660	1117			
288	J290	5.00	305.0	16.2	16.0	5.0	254.0	263.6	415	296	5.15	4.00	12.0	611	485	4.0	72.00	3670	1111			
290	J290	5.00	305.0	16.2	16.0	5.0	256.0	265.0	415	298	5.15	4.00	12.0	615	482	4.0	71.50	3695	1104			
292	J292	5.00	305.0	16.2	16.0	5.0	258.0	267.6	415	300	5.15	4.00	12.0	620	479	4.0	71.00	3720	1098			
295	J295	5.00	310.0	16.2	16.0	5.0	261.0	270.6	426	303	5.15	4.00	12.0	625	474	4.0	70.50	3755	1087			
297	J295	5.00	310.0	16.2	16.0	5.0	263.0	272.6	426	305	5.15	4.00	12.0	630	471	4.0	70.50	3780	1079			
298	J300	5.00	315.0	16.2	16.0	5.0	264.0	273.6	435	306	5.15	4.00	12.0	631	469	4.0	69.50	3790	1075			
300	J300	5.00	315.0	16.2	16.0	5.0	266.0	275.0	435	308	5.15	4.00	12.0	636	466	4.0	69.00	3820	1068			

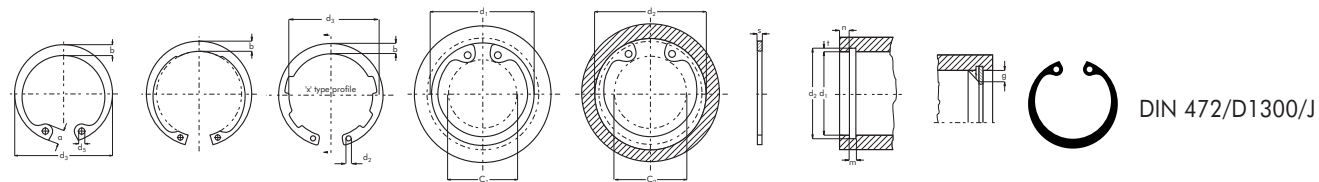
 **Part Number**
 Référence Teile Nummer Referencia de pieza


 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



d ₁	D1300 J	⊙							⊕				D A T A						
		s	Δ	d ₃	Δ	b ≈	d _{5 min.}	 (kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	K (kN·mm)
305	J305	6.00	-0.15	322.0	+2.00 -0.90	16.0	6.0	755	315	+0.81	6.20	5.00	15.0	810	724	5.0	90.00	4860	2202
310	J310	6.00		327.0		16.0	6.0	770	320	6.20	5.00	15.0	823	712	5.0	88.00	4940	2169	
315	J315	6.00		332.0		16.0	6.0	785	325	6.20	5.00	15.0	837	701	5.0	87.00	5027	2140	
320	J320	6.00		337.0		16.0	6.0	800	330	6.20	5.00	15.0	850	690	5.0	85.00	5100	2105	
325	J325	6.00		342.0		16.0	6.0	810	335	6.20	5.00	15.0	864	679	5.0	84.00	5184	2076	
330	J330	6.00		347.0		16.0	6.0	820	340	6.20	5.00	15.0	876	669	5.0	83.00	5260	2048	
335	J335	6.00		352.0		16.0	6.0	830	345	6.20	5.00	15.0	890	659	5.0	82.00	5341	2017	
340	J340	6.00		357.0		16.0	6.0	840	350	6.20	5.00	15.0	903	649	5.0	80.00	5420	1991	
345	J345	6.00		362.0		16.0	6.0	855	355	6.20	5.00	15.0	916	640	5.0	79.00	5498	1964	
350	J350	6.00		367.0		16.0	6.0	870	360	6.20	5.00	15.0	929	630	5.0	78.00	5575	1938	
355	J355	6.00		372.0		16.0	6.0	880	365	6.20	5.00	15.0	942	621	5.0	77.00	5655	1910	
360	J360	6.00		377.0		16.0	6.0	890	370	6.20	5.00	15.0	955	613	5.0	76.00	5730	1886	
365	J365	6.00		382.0		16.0	6.0	906	375	6.20	5.00	15.0	968	604	5.0	75.00	5812	1862	
370	J370	6.00		387.0		16.0	6.0	920	380	6.20	5.00	15.0	981	596	5.0	74.00	5890	1839	
375	J375	6.00		392.0		16.0	6.0	932	385	6.20	5.00	15.0	994	588	5.0	73.00	5969	1817	
380	J380	6.00		397.0		16.0	6.0	940	390	6.20	5.00	15.0	1008	580	5.0	72.00	6050	1796	
385	J385	6.00		402.0		16.0	6.0	950	395	6.20	5.00	15.0	1021	573	5.0	71.00	6126	1774	
390	J390	6.00		407.0		16.0	6.0	960	400	6.20	5.00	15.0	1033	565	5.0	70.00	6200	1751	
395	J395	6.00		412.0		16.0	6.0	972	405	6.20	5.00	15.0	1047	558	5.0	69.00	6283	1732	
400	J400	6.00		417.0		16.0	6.0	980	410	6.20	5.00	15.0	1060	551	5.0	68.00	6360	1710	
410	J410	7.00	430.0	23.0	6.0	1380	422	7.20	6.00	18.0	1307	1203	6.0	124.00	7842	3463			
420	J420	7.00	440.0	23.0	6.0	1410	432	7.20	6.00	18.0	1338	1174	6.0	121.00	8030	3391			
430	J430	7.00	450.0	23.0	6.0	1440	442	7.20	6.00	18.0	1369	1147	6.0	118.00	8219	3312			
440	J440	7.00	460.0	23.0	6.0	1470	452	7.20	6.00	18.0	1401	1121	6.0	116.00	8407	3248			
450	J450	7.00	470.0	23.0	6.0	1510	462	7.20	6.00	18.0	1431	1095	6.0	113.00	8590	3180			
460	J460	7.00	480.0	23.0	6.0	1550	472	7.20	6.00	18.0	1464	1071	6.0	111.00	8784	3116			
470	J470	7.00	490.0	23.0	6.0	1595	482	7.20	6.00	18.0	1495	1048	6.0	108.00	8973	3048			
480	J480	7.00	500.0	23.0	6.0	1640	492	7.20	6.00	18.0	1526	1026	6.0	106.00	9161	2991			
490	J490	7.00	510.0	23.0	6.0	1685	502	7.20	6.00	18.0	1558	1005	6.0	104.00	9349	2931			
500	J500	7.00	520.0	23.0	6.0	1730	512	7.20	6.00	18.0	1588	985	6.0	102.00	9530	2878			
510	J510	8.00	535.0	23.0	6.0	2250	524	8.20	7.00	21.0	1894	1436	7.0	127.00	11369	4201			
520	J520	8.00	545.0	23.0	6.0	2290	534	8.20	7.00	21.0	1931	1408	7.0	125.00	11589	4128			
530	J530	8.00	555.0	23.0	6.0	2335	544	8.20	7.00	21.0	1968	1381	7.0	122.00	11810	4049			
540	J540	8.00	565.0	23.0	6.0	2380	554	8.20	7.00	21.0	2004	1356	7.0	120.00	12029	3981			
550	J550	8.00	575.0	23.0	6.0	2430	564	8.20	7.00	21.0	2014	1331	7.0	118.00	12250	3919			

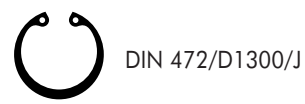
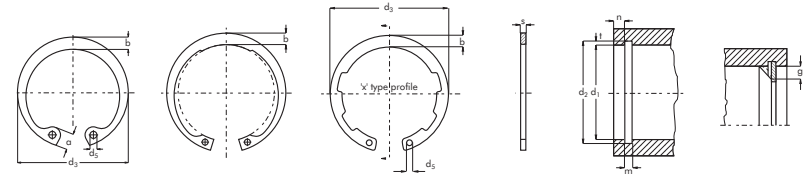
 **Part Number**
 Référence Teile Nummer Referencia de pieza




 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



d ₁	D1300 J												D A T A						
		s	Δ	d ₃	Δ	b ≈	d _{5 min.}	 (kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	K (kN•mm)
560	J560	8.00	-0.15	585.0	+3.00 -1.50	23.0	6.0	2495	574	+1.00	8.20	7.00	21.0	2078	1307	7.0	116.00	12469	3852
570	J570	8.00		595.0		23.0	6.0	2560	584		8.20	7.00	21.0	2114	1284	7.0	114.00	12689	3790
580	J580	8.00		605.0		23.0	6.0	2625	594		8.20	7.00	21.0	2151	1262	7.0	112.00	12909	3728
590	J590	8.00		615.0		23.0	6.0	2700	604		8.20	7.00	21.0	2188	1240	7.0	110.00	13129	3668
600	J600	8.00		625.0		23.0	6.0	2770	614		8.20	7.00	21.0	2221	1220	7.0	108.00	13330	3598
650	J650	9.00	-0.20	680.0	+4.00 -2.00	23.0	6.0	3600	666	+1.00	9.30	8.00	24.0	2753	1598	7.0	142.00	16520	6078
700	J700	9.00		730.0		23.0	6.0	4120	716		9.30	8.00	24.0	2966	1484	7.0	131.00	17800	5661
750	J750	9.00		785.0		23.0	9.0	4540	768		9.30	9.00	27.0	3566	1381	7.0	122.00	21400	5285
800	J800	9.00		835.0		23.0	9.0	5450	818		9.30	9.00	27.0	3800	1295	7.0	115.00	22800	4980
850	J850	9.00		890.0		23.0	9.0	5990	870		9.30	10.00	30.0	4500	1216	7.0	108.00	27000	4680
900	J900	9.00	-0.20	940.00	+4.00 -2.00	23.0	9.0	6740	920	+1.00	9.30	10.00	30.0	4766	1149	7.0	102.00	28600	4435
950	J950	9.00		1000.00		23.0	9.0	7930	972		9.30	11.00	33.0	5608	1086	7.0	96.00	33650	4210
1000	J1000	9.00		1050.00		23.0	9.0	8880	1022		9.30	11.00	33.0	5825	1032	7.0	91.00	34950	4010

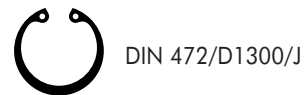
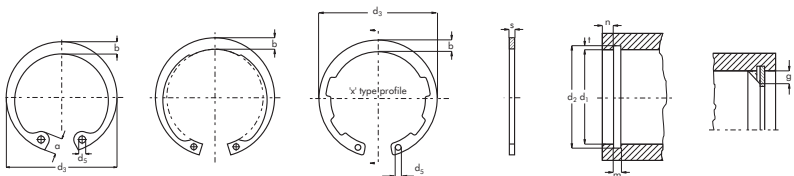
 **Part Number**
 Référence Teile Nummer Referencia de pieza

 **Tolerance**
 Tolérance Toleranz Tolerancia




 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



Circlips pour alésages cote pouce Sicherungsringe für Bohrungen Zoll-Standard Anillos para agujeros pulgadas standard RINGS FOR BORES INCH STANDARD

d ₁	N1300 NJ																	D A T A			
		s	Δ	d ₃	Δ	a max.	b ≈	w ~	d ₅ min.	C ₁	C ₂	 (lbs/1000)	d ₂	Δ	m	Δ	n min.	T _c	T _g		
0.250	NJ25	0.015	±0.002	0.280	+0.010 -0.005	0.068	0.025	0.015	0.029	0.11	0.13	0.08	0.268	±0.001	0.018	+0.001/-0.000	0.027	530	130		
0.312	NJ31	0.015		0.346		0.069	0.033	0.018	0.029	0.17	0.19	0.11	0.330		0.018		0.027	660	160		
0.375	NJ37	0.025		0.415		0.085	0.040	0.028	0.039	0.20	0.22	0.25	0.397		0.029		0.033	1320	235		
0.438	NJ43	0.025		0.482		0.101	0.049	0.029	0.039	0.23	0.25	0.37	0.461		0.029		0.036	1550	285		
0.453	NJ45	0.025		0.498		0.101	0.050	0.030	0.045	0.25	0.27	0.43	0.477		0.029		0.036	1600	310		
0.500	NJ50	0.035	±0.002	0.548	+0.015 -0.010	0.117	0.053	0.035	0.045	0.26	0.29	0.70	0.530	±0.002	0.039	+0.003 -0.000	0.045	2470	425		
0.512	NJ51	0.035		0.560		0.119	0.053	0.035	0.045	0.27	0.30	0.77	0.542		0.039		0.045	2530	435		
0.562	NJ56	0.035		0.620		0.137	0.053	0.035	0.045	0.28	0.32	0.86	0.596		0.039		0.050	2780	540		
0.625	NJ62	0.035		0.694		0.137	0.060	0.035	0.060	0.35	0.39	1.00	0.665		0.039		0.060	3090	705		
0.658	NJ68	0.035		0.763		0.137	0.063	0.036	0.060	0.41	0.45	1.20	0.732		0.039		0.066	3400	853		
0.750	NJ75	0.035	±0.002	0.831	+0.015 -0.010	0.147	0.070	0.040	0.060	0.45	0.50	1.30	0.796	±0.003	0.039	+0.004 -0.000	0.069	3710	975		
0.777	NJ77	0.042		0.859		0.151	0.074	0.044	0.060	0.47	0.52	1.70	0.825		0.046		0.072	4610	1050		
0.812	NJ81	0.042		0.901		0.160	0.077	0.044	0.060	0.49	0.53	1.90	0.862		0.046		0.075	4820	1150		
0.866	NJ86	0.042		0.961		0.160	0.081	0.045	0.060	0.54	0.59	2.00	0.920		0.046		0.081	5140	1320		
0.875	NJ87	0.042		0.971		0.160	0.084	0.045	0.060	0.55	0.60	2.10	0.931		0.046		0.084	5190	1390		
0.901	NJ90	0.042	±0.003	1.000	+0.025 -0.020	0.160	0.087	0.047	0.060	0.58	0.63	2.20	0.959	±0.004	0.046	+0.004 -0.000	0.087	5350	1480		
0.938	NJ93	0.042		1.041		0.160	0.091	0.050	0.060	0.61	0.67	2.40	1.000		0.046		0.093	5570	1640		
1.000	NJ100	0.042		1.111		0.160	0.104	0.052	0.060	0.68	0.74	2.70	1.066		0.046		0.099	5940	1870		
1.023	NJ102	0.042		1.136		0.160	0.106	0.054	0.060	0.70	0.76	2.80	1.091		0.046		0.102	6070	1970		
1.062	NJ106	0.050		1.180		0.185	0.110	0.055	0.076	0.69	0.75	3.70	1.130		0.056		0.102	7500	2040		
1.125	NJ112	0.050	±0.003	1.249	+0.025 -0.020	0.185	0.116	0.057	0.076	0.75	0.82	4.00	1.197	±0.004	0.056	+0.004 -0.000	0.108	7950	2290		
1.188	NJ118	0.050		1.319		0.185	0.120	0.058	0.076	0.81	0.88	4.30	1.262		0.056		0.111	8400	2490		
1.250	NJ125	0.050		1.388		0.185	0.124	0.062	0.076	0.88	0.95	4.80	1.330		0.056		0.120	8850	2830		
1.312	NJ131	0.050		1.456		0.185	0.130	0.062	0.076	0.94	1.02	5.00	1.396		0.056		0.126	9300	3120		
1.375	NJ137	0.050		1.526		0.185	0.130	0.063	0.076	1.00	1.08	5.10	1.461		0.056		0.129	9700	3340		
1.438	NJ143	0.050	±0.003	1.596	+0.035 -0.025	0.185	0.133	0.065	0.076	1.06	1.15	5.80	1.528	±0.005	0.056	+0.004 -0.000	0.135	10200	3660		
1.456	NJ145	0.050		1.616		0.185	0.133	0.065	0.076	1.08	1.17	6.00	1.548		0.056		0.138	10300	3790		
1.500	NJ150	0.050		1.660		0.185	0.133	0.066	0.076	1.13	1.22	6.10	1.594		0.056		0.141	10600	3990		
1.562	NJ156	0.062		1.734		0.205	0.160	0.079	0.076	1.15	1.24	9.10	1.658		0.068		0.144	11400	4240		
1.625	NJ162	0.062		1.804		0.205	0.160	0.080	0.076	1.21	1.31	10.10	1.735		0.068		0.150	11800	4590		
1.653	NJ165	0.062	±0.003	1.835	+0.035 -0.025	0.205	0.167	0.083	0.076	1.24	1.34	10.40	1.755	±0.005	0.068	+0.004 -0.000	0.153	12100	4760		
1.688	NJ168	0.062		1.874		0.205	0.170	0.085	0.076	1.27	1.38	10.80	1.792		0.068		0.156	12300	4860		
1.750	NJ175	0.062		1.942		0.205	0.175	0.082	0.076	1.34	1.44	11.50	1.858		0.068		0.162	12800	5340		
1.812	NJ181	0.062		2.012		0.205	0.170	0.084	0.091	1.40	1.51	12.00	1.922		0.068		0.165	13200	5630		
1.850	NJ185	0.062		2.054		0.205	0.170	0.085	0.091	1.44	1.55	12.80	1.962		0.068		0.168	13500	5860		

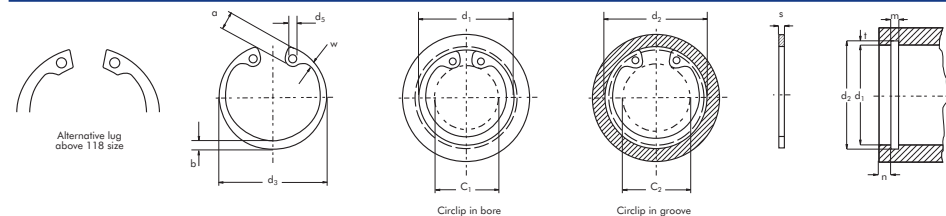
 **Part Number**
 Référence Teile Nummer Referencia de pieza

 **Tolerance**
 Tolérance Toleranz Tolerancia



 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

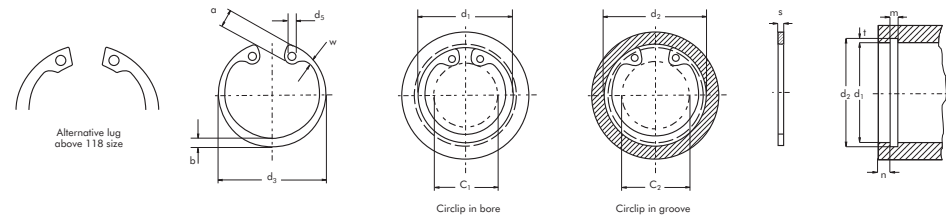
 **Groove**
 Gorge Nut Ranura






Circlips pour alésages cote pouce Sicherungsringe für Bohrungen Zoll-Standard Anillos para agujeros pulgadas standard RINGS FOR BORES INCH STANDARD

d ₁	N1300 NJ	s	Δ	d ₃	Δ												D A T A					
						a max.	b ≈	w ~	d ₅ min.	C ₁	C ₂	(lbs/1000)	d ₂	Δ	m	Δ	n min.	T _c	T _g			
1.875	NJ187	0.062	±0.003	2.072	+.035 -.025	0.205	0.170	0.085	0.091	1.46	1.58	12.8	1.989	±.005	0.068	+.004/-0.000	0.171	13700	6040			
1.938	NJ193	0.062		2.141		0.205	0.165	0.079	0.091	1.52	1.64	13.3	2.056		2.056		0.068	0.177	14100	6470		
2.000	NJ200	0.062		2.210		0.205	0.170	0.085	0.091	1.59	1.91	13.0	2.122		2.122		0.068	0.183	14600	6900		
2.062	NJ206	0.078		2.280	+.040 -.030	0.225	0.186	0.091	0.091	1.61	1.73	18.0	2.186	±.006	0.086	+.005 -.000	0.186	18900	7230			
2.125	NJ212	0.078		2.350		0.236	0.195	0.096	0.091	1.65	1.78	19.4	2.251		2.251		0.086	0.189	19500	7570		
2.188	NJ218	0.078		2.415		0.236	0.199	0.098	0.091	1.71	1.84	19.6	2.318		2.318		0.086	0.195	20000	8040		
2.250	NJ225	0.078		2.490	±0.055	0.236	0.203	0.107	0.091	1.77	1.91	21.8	2.382	±.006	0.086	+.005 -.000	0.198	20600	8400			
2.312	NJ231	0.078		2.560		0.236	0.205	0.106	0.091	1.84	1.98	22.6	2.450		2.450		0.086	0.207	21200	9020		
2.375	NJ237	0.078		2.630		0.236	0.207	0.108	0.091	1.90	2.04	23.8	2.517		2.517		0.086	0.213	21700	9540		
2.440	NJ244	0.078		2.702	±0.065	0.236	0.205	0.104	0.108	1.96	2.11	25.3	2.584	±.006	0.086	+.005 -.000	0.216	22300	10100			
2.500	NJ250	0.078		2.775		0.236	0.210	0.103	0.108	2.02	2.17	29.3	2.648		2.648		0.086	0.222	22300	10460		
2.562	NJ256	0.093		2.844		0.268	0.222	0.109	0.108	2.02	2.18	30.4	2.714		2.714		0.103	0.228	28000	11000		
2.625	NJ262	0.093		2.910	±0.055	0.268	0.226	0.118	0.108	2.08	2.24	34.5	2.781	±.006	0.103	+.005 -.000	0.234	28600	11600			
2.688	NJ268	0.093		2.980		0.268	0.236	0.122	0.108	2.15	2.31	36.2	2.848		2.848		0.103	0.240	29300	12200		
2.750	NJ275	0.093		3.050		0.284	0.234	0.114	0.108	2.18	2.34	35.5	2.914		2.914		0.103	0.246	30000	12800		
2.812	NJ281	0.093		3.121	±0.055	0.284	0.230	0.115	0.108	2.24	2.40	39.2	2.980	±.006	0.103	+.005 -.000	0.252	30800	13400			
2.875	NJ287	0.093		3.191		0.284	0.240	0.125	0.108	2.30	2.47	40.0	3.051		3.051		0.103	0.264	31500	14300		
3.000	NJ300	0.093		3.325		0.284	0.250	0.124	0.108	2.43	2.60	42.5	3.182		3.182		0.103	0.273	32900	15400		
3.062	NJ306	0.109		3.418	±0.055	0.299	0.254	0.126	0.123	2.46	2.64	54.4	3.248	±.006	0.120	+.005 -.000	0.279	39300	16100			
3.125	NJ312	0.109		3.488		0.299	0.260	0.129	0.123	2.52	2.71	56.0	3.315		3.315		0.120	0.285	40100	16800		
3.149	NJ315	0.109		3.523		0.299	0.260	0.129	0.123	2.55	2.74	57.1	3.348		3.348		0.120	0.288	40400	17100		
3.250	NJ325	0.109		3.623	±0.055	0.299	0.269	0.135	0.123	2.65	2.84	59.9	3.446	±.006	0.120	+.005 -.000	0.294	41700	18000			
3.346	NJ334	0.109		3.734		0.323	0.276	0.140	0.123	2.69	2.89	63.0	3.546		3.546		0.120	0.300	43000	18900		
3.469	NJ347	0.109		3.857		0.350	0.294	0.143	0.123	2.77	2.96	69.0	3.675		3.675		0.120	0.309	44500	20200		
3.500	NJ350	0.109	3.890	±0.055	0.350	0.294	0.143	0.123	2.80	2.90	71.0	3.710	±.006	0.120	+.005 -.000	0.315	44900	20800				
3.543	NJ354	0.109	3.936		0.350	0.292	0.142	0.123	2.84	3.07	72.1	3.776		3.776		0.120	0.321	45500	21400			
3.625	NJ362	0.109	4.024		0.350	0.298	0.149	0.123	2.92	3.13	73.0	3.841		3.841		0.120	0.324	46500	22100			
3.750	NJ375	0.109	4.157	±0.055	0.350	0.309	0.155	0.123	3.04	3.26	78.0	3.974	±.006	0.120	+.005 -.000	0.336	48200	23700				
3.875	NJ387	0.109	4.291		0.350	0.312	0.165	0.123	3.17	3.40	87.1	4.107		4.107		0.120	0.348	49800	25400			
3.938	NJ393	0.109	4.358		0.350	0.319	0.166	0.123	3.23	3.46	87.9	4.174		4.174		0.120	0.354	50600	26300			
4.000	NJ400	0.109	4.424	±0.065	0.378	0.330	0.166	0.123	3.24	3.47	95.0	4.240	±.006	0.120	+.005 -.000	0.360	51400	27000				
4.125	NJ412	0.109	4.558		0.378	0.330	0.171	0.123	3.36	3.60	97.0	4.365		4.365		0.120	0.360	53000	28000			
4.250	NJ425	0.109	4.691		0.378	0.335	0.180	0.123	3.49	3.72	100.0	4.490		4.490		0.120	0.360	54600	28800			
4.331	NJ433	0.109	4.756		0.413	0.345	0.180	0.151	3.50	3.73	107.0	4.571		4.571		0.120	0.360	55600	29400			
4.500	NJ450	0.109	4.940		0.413	0.351	0.181	0.151	3.67	3.90	111.0	4.740		4.740		0.120	0.360	57800	30500			

 Part Number Référence Teile Nummer Referencia de pieza	 Tolerance Tolérance Toleranz Tolerancia	 Weight Masse Gewicht Peso	 Ring Anneau/Circlips Ring Anillo	 Groove Gorge Nut Ranura
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Circlips pour alésages cote pouce Sicherungsringe für Bohrungen Zoll-Standard Anillos para agujeros pulgadas standard RINGS FOR BORES INCH STANDARD

d ₁	N1300 NJ																	D A T A			
		s	Δ	d ₃	Δ	a max.	b ~	w ~	d ₅ min.	C ₁	C ₂	 (lbs/1000)	d ₂	Δ	m	Δ	n min.	T _c	T _g		
4.625	NJ462	0.109	±0.003	5.076	±.065	0.413	0.360	0.185	0.151	3.79	4.03	119.0	4.865	±.006	0.120	+.005 -.000	0.360	59400	31400		
4.750	NJ475	0.109		5.213		0.413	0.370	0.175	0.151	3.92	4.16	124.0	4.995		0.120		0.366	61000	32800		
5.000	NJ500	0.109		5.485		0.445	0.395	0.218	0.151	4.10	4.36	136.0	5.260		0.120		0.390	64200	36800		
5.250	NJ525	0.125		5.770		0.465	0.408	0.212	0.151	4.31	4.58	175.0	5.520		0.139		0.405	77300	40100		
5.375	NJ537	0.125		5.910		0.465	0.408	0.198	0.151	4.44	4.71	179.0	5.650		0.139		0.405	78800	41000		
5.500	NJ550	0.125	±0.004	6.066	±.080	0.465	0.408	0.200	0.151	4.56	4.83	189.0	5.770	±.007	0.139	+.006 -.000	0.405	81000	42000		
5.750	NJ575	0.125		6.336		0.465	0.408	0.198	0.151	4.81	5.08	195.0	6.020		0.139		0.405	84700	43900		
6.000	NJ600	0.125		6.620		0.465	0.416	0.223	0.151	5.06	5.33	204.0	6.270		0.139		0.405	88400	45800		
6.250	NJ625	0.156		6.895		0.454	0.441	0.213	0.182	5.34	5.61	263.0	6.530		0.174		0.420	114900	49500		
6.500	NJ650	0.156		7.170		0.454	0.441	0.244	0.182	5.59	5.87	281.0	6.790		0.174		0.435	119500	53300		
6.662	NJ662	0.156	±0.005	7.308	±.090	0.454	0.441	0.220	0.182	5.71	6.01	300.0	6.925	±.008	0.174	+.008 -.000	0.450	121700	56200		
6.750	NJ675	0.156		7.445		0.508	0.456	0.224	0.182	5.73	6.03	325.0	7.055		0.174		0.456	124000	58000		
7.000	NJ700	0.156		7.720		0.540	0.485	0.258	0.182	5.91	6.22	344.0	7.315		0.174		0.471	128600	62200		
7.250	NJ725	0.187		7.995		0.570	0.490	0.239	0.182	6.10	6.42	428.0	7.575		0.209		0.486	159700	66400		
7.500	NJ750	0.187		8.270		0.570	0.507	0.282	0.182	6.35	6.69	476.0	7.840		0.209		0.510	165200	72100		
7.750	NJ775	0.187	±0.005	8.545	±.090	0.560	0.500	0.241	0.182	6.62	6.97	520.0	8.100	±.008	0.209	+.008 -.000	0.525	170700	76700		
8.000	NJ800	0.187		8.820		0.600	0.550	0.280	0.182	6.79	7.15	555.0	8.360		0.209		0.540	152700	81400		
8.250	NJ825	0.187		9.095		0.600	0.548	0.260	0.182	7.04	7.41	603.0	8.620		0.209		0.555	158500	86300		
8.500	NJ850	0.187		9.285		0.632	0.573	0.277	0.182	7.23	7.60	634.0	8.880		0.209		0.570	162300	91300		
8.750	NJ875	0.187		9.558		0.632	0.576	0.283	0.182	7.48	7.88	653.0	9.145		0.209		0.591	167000	97700		
9.000	NJ900	0.187	±0.005	9.830	±.090	0.632	0.592	0.294	0.182	7.73	8.13	732.0	9.405	±.008	0.209	+.008 -.000	0.606	171800	103000		
9.250	NJ925	0.187		10.102		0.632	0.622	0.299	0.182	7.98	8.39	767.0	9.668		0.209		0.627	176600	109000		
9.500	NJ950	0.187		10.375		0.632	0.622	0.354	0.182	8.23	8.65	803.0	9.930		0.209		0.645	181400	116000		
9.750	NJ975	0.187		10.648		0.622	0.622	0.295	0.182	8.50	8.93	833.0	0.190		0.209		0.660	186200	121300		
10.000	NJ1000	0.187		10.920		0.622	0.622	0.295	0.182	8.75	9.19	863.0	10.450		0.209		0.675	191000	127200		

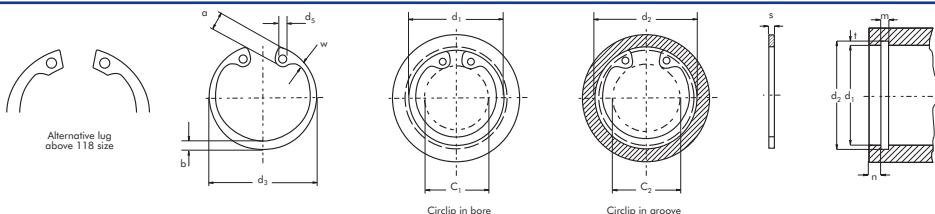
 **Part Number**
 Référence Teile Nummer Referencia de pieza

 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

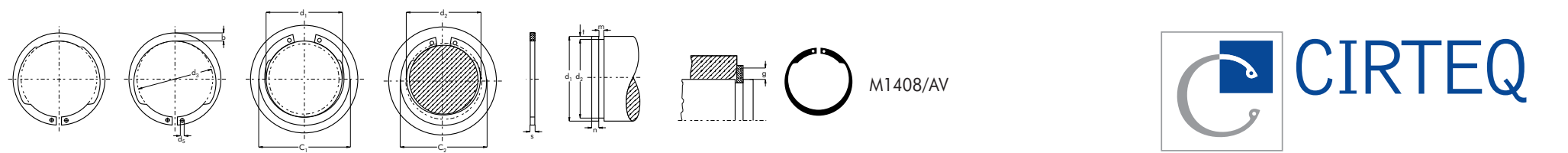
 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura




d ₁	M1408 AV	○									H			D A T A									
		s	Δ	d ₃	Δ	b	Δ	d ₅ min.	C ₁	C ₂	(kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	K (kN/mm)	n _{det.} x1000 (rpm)
10	AV10	0.60	-0.05	9.2		1.8		1.0	13.9	13.3	0.25	9.5		0.70	0.25	0.7	0.62	1.4	1.0	1.0	3.8	5.7	84
12	AV12	1.00		11.0		2.1		1.3	16.5	15.9	0.50	11.5		1.10	0.25	0.7	0.70	4.5	1.0	2.4	4.2	21.6	79
13	AV13	1.00		11.9		2.1		1.3	17.5	16.8	0.56	12.4		1.10	0.30	0.9	0.90	5.5	1.0	2.4	5.4	20.8	64
14	AV14	1.00		12.9	+0.10	2.1		1.3	18.5	17.8	0.58	13.4		1.10	0.30	0.9	0.97	6.0	1.0	2.4	5.8	19.2	56
15	AV15	1.00		13.8	-0.36	2.2		1.3	20.1	19.3	0.66	14.3	-0.11	1.10	0.35	1.0	1.22	6.5	1.0	2.4	7.3	19.3	50
16	AV16	1.00		14.7		2.3		1.3	21.3	20.4	0.72	15.2		1.10	0.40	1.2	1.48	7.0	1.0	2.5	8.9	18.7	45
17	AV17	1.00		15.7		2.4		1.3	22.1	21.2	0.81	16.2		1.10	0.40	1.2	1.57	8.1	1.0	2.6	9.4	18.2	41
18	AV18	1.20		16.5		2.6		1.5	23.5	22.4	1.14	17.0		1.30	0.50	1.5	2.07	14.8	1.5	3.2	12.4	32.6	39
20	AV20	1.20		18.5		2.8		1.5	25.9	24.8	1.43	19.0		1.30	0.50	1.5	2.30	14.6	1.5	3.1	13.8	30.1	32
21	AV21	1.20		19.35	+0.13	2.8		1.5	27.0	25.8	1.53	20.0	-0.15	1.30	0.50	1.5	2.42	14.4	1.5	3.1	14.5	29.9	29
22	AV22	1.20		20.5	-0.42	3.0	±0.1	1.5	28.7	27.2	1.63	21.0		1.30	0.50	1.5	2.53	14.2	1.5	3.1	15.2	29.7	27
23	AV23	1.20	-0.06	21.5		3.1		1.5	29.5	28.4	1.78	22.0		1.30	0.50	1.5	2.66	14.0	1.5	3.1	16.0	29.0	25
24	AV24	1.20		22.2		3.2		1.5	30.7	29.5	1.90	22.9		1.30	0.55	1.6	3.03	14.0	1.5	3.1	18.2	28.8	27
25	AV25	1.20		23.2		3.4		1.5	32.7	31.5	2.10	23.9		1.30	0.55	1.6	3.18	14.1	1.5	3.2	19.1	28.8	25
26	AV26	1.20		24.2	+0.21	3.5		1.5	33.3	32.1	2.18	24.9	-0.21	1.30	0.55	1.6	3.30	14.1	1.5	3.2	19.8	28.4	25
28	AV28	1.50		25.9	-0.42	3.8		2.0	35.9	34.4	3.18	26.6		1.60	0.70	2.1	4.50	28.0	1.5	6.4	27.0	56.0	22
30	AV30	1.50		27.9		3.9		2.0	38.1	36.6	3.58	28.6		1.60	0.70	2.1	4.86	27.5	1.5	6.3	29.2	53.5	19
32	AV32	1.50		29.6		4.0		2.0	40.3	38.5	3.88	30.3		1.60	0.85	2.5	6.25	27.0	2.0	4.7	37.0	52.0	17
34	AV34	1.50		31.5		3.5		2.0	41.3	39.5	3.60	32.3		1.60	0.85	2.5	6.67	26.6	2.0	4.6	40.0	50.5	15
35	AV35	1.50		32.2	+0.25	4.2		2.0	43.7	41.6	4.53	33.0		1.60	1.00	2.5	8.00	26.6	2.0	4.6	48.0	50.1	16
38	AV38	1.75		34.5	-0.90	4.5		2.0	47.6	45.0	5.50	35.8		1.85	1.10	3.3	10.60	42.0	2.0	7.8	64.0	77.0	15
40	AV40	1.75		36.5		4.7		2.0	50.0	47.3	6.49	37.5	-0.25	1.85	1.25	3.8	12.60	42.0	2.0	7.8	75.0	77.0	15
42	AV42	1.75		38.5		4.7		2.0	52.0	49.3	6.51	39.5		1.85	1.25	3.8	13.30	42.0	2.0	7.8	80.0	76.0	13
45	AV45	1.75		41.5	+0.39	4.7		2.0	55.0	52.3	7.80	42.5		1.85	1.25	3.8	14.30	41.5	2.0	7.8	86.0	75.0	11
47	AV47	1.75		43.5	-0.90	5.0		2.0	57.6	54.9	8.09	44.5		1.85	1.25	3.8	15.00	41.0	2.0	7.8	90.0	73.5	10
48	AV48	1.75		44.5		5.2	±0.2	2.0	59.0	56.3	8.48	45.5		1.85	1.25	3.8	15.80	41.0	2.0	7.8	95.0	73.5	10
50	AV50	2.00		45.8		5.2		2.5	61.0	57.8	9.84	47.0		2.15	1.50	4.5	19.20	58.0	2.0	11.6	115.0	108.0	10
55	AV55	2.00		50.8		5.8		2.5	67.2	64.0	11.42	52.0		2.15	1.50	4.5	21.00	58.0	2.5	9.3	126.0	104.0	9
58	AV58	2.00		53.8		5.8		2.5	70.2	67.0	13.00	55.0		2.15	1.50	4.5	22.20	56.0	2.5	9.2	133.0	100.0	8
60	AV60	2.00		55.8		5.8		2.5	72.2	69.0	13.80	57.0		2.15	1.50	4.5	23.00	55.5	2.5	9.1	138.0	99.0	7
65	AV65	2.50	-0.07	60.8	+0.46	6.0		2.5	77.8	74.6	20.75	62.0	-0.30	2.65	1.50	4.5	24.80	104.0	2.5	17.6	149.0	187.0	6
70	AV70	2.50		65.5	-1.10	6.5		2.5	83.8	80.6	23.70	67.0		2.65	1.50	4.5	27.00	103.0	2.5	17.6	162.0	185.0	6
72	AV72	2.50		67.5		6.5		2.5	85.8	82.6	24.70	69.0		2.65	1.50	4.5	27.70	104.0	2.5	18.0	166.0	187.0	6
75	AV75	2.50		70.5		6.5		2.5	88.8	85.6	27.50	72.0		2.65	1.50	4.5	29.20	100.0	2.5	17.7	175.0	182.0	5
80	AV80	2.50		74.5		7.0		2.5	94.8	91.1	28.90	76.5		2.65	1.75	5.3	36.60	96.0	3.0	14.6	220.0	175.0	6
82	AV82	2.50		76.5		7.0	±0.3	2.5	96.8	93.1	29.65	78.5		2.65	1.75	5.3	37.40	100.0	3.0	15.4	225.0	184.0	5
85	AV85	3.00		79.5		7.4		3.0	100.6	96.9	39.50	81.5		3.15	1.75	5.3	38.30	167.0	3.0	25.6	230.0	300.0	5
87	AV87	3.00		81.5		7.4		3.0	102.6	98.9	40.00	83.5		3.15	1.75	5.3	39.20	164.0	3.0	25.5	235.0	297.0	5
90	AV90	3.00		84.5	+0.54	7.4		3.0	105.6	101.9	41.92	86.5	-0.35	3.15	1.75	5.3	41.70	157.0	3.0	24.8	250.0	288.0	4
95	AV95	3.00	-0.08	89.5	-1.300	8.0		3.0	111.8	108.1	47.70	91.5		3.15	1.75	5.3	42.70	152.0	3.5	21.0	256.0	285.0	4
100	AV100	3.00		94.5		8.0		3.0	116.8	113.1	49.92	96.5		3.15	1.75	5.3	45.80	144.0	3.5	20.5	275.0	276.0	4

Part Number Réference Teile Nummer Referencia de pieza
 Tolerance Tolérance Toleranz Tolerancia
 Weight Masse Gewicht Peso
 Ring Anneau/Circlips Ring Anillo
 Groove Gorge Nut Ranura



Circlips type 'V' cote pouce V-Ring für Wellen Zoll-Standard Anillos para ejes tipo 'V' pulgadas standard V-RINGS FOR SHAFTS INCH STANDARD

d ₁	N1408 NAV	○										⌋				D A T A							
		s	Δ	d ₃	Δ	a max.	b ≈	d ₅ min.	C ₁	C ₂	 (lbs/1000)	d ₂	Δ	m	Δ	n min.	T _c	T _g					
0.500	NAV50	0.035		0.461		0.080	0.080	0.040	0.67	0.64	1.0	0.468	±.002	0.039		0.050	1240	226					
0.562	NAV56	0.035		0.521		0.088	0.088	0.040	0.75	0.72	1.4	0.530		0.039		0.050	1390	254					
0.594	NAV59	0.035		0.550		0.092	0.092	0.040	0.79	0.75	1.6	0.559		0.039		0.050	1470	294					
0.625	NAV62	0.035		0.579		0.096	0.096	0.040	0.83	0.79	1.6	0.588		0.039		0.055	1550	327					
0.688	NAV68	0.042		0.635		0.104	0.104	0.040	0.91	0.87	2.5	0.646		0.046		0.065	2040	409					
0.750	NAV75	0.042	±0.002	0.693	+ .005	0.112	0.112	0.040	0.99	0.94	2.8	0.704		±.003		0.046	+ .003 - .000	0.070	2230	488			
0.781	NAV78	0.042		0.722	- .010	0.116	0.116	0.040	1.04	0.98	3.1	0.733	0.046		0.075	2320		530					
0.812	NAV81	0.042		0.751		0.120	0.120	0.048	1.08	1.02	3.3	0.762	0.046		0.075	2410		574					
0.875	NAV87	0.042		0.810		0.128	0.128	0.048	1.16	1.08	3.8	0.812	0.046		0.080	2600		668					
0.938	NAV93	0.042		0.867		0.136	0.136	0.048	1.24	1.18	4.5	0.882	0.046		0.085	2780		743					
1.000	NAV100	0.042		±0.002	0.925		0.144	0.144	0.048	1.32	1.24	4.9	0.940		±.004	0.046			0.090	2970	848		
1.062	NAV106	0.050	0.982			0.147	0.147	0.076	1.38	1.31	6.2	0.998	0.056	0.096		3750	961						
1.125	NAV112	0.050	1.041			0.150	0.150	0.076	1.45	1.38	6.7	1.059	0.056	0.100		3980	1050						
1.188	NAV118	0.050	1.098			0.153	0.153	0.076	1.52	1.44	7.2	1.118	0.056	0.105		4200	1180						
1.250	NAV125	0.050	1.156		+ .010 - .015	0.157	0.157	0.076	1.59	1.51	7.6	1.176	0.056	0.110		4420	1310						
1.312	NAV131	0.050	±0.003		1.214		0.161	0.161	0.076	1.66	1.57	8.2	1.232	±.005		0.056	+ .004 - .000		0.120	4540	1480		
1.375	NAV137	0.050		1.272		0.165	0.165	0.076	1.73	1.64	8.4	1.291	0.056		0.125	4360		1630					
1.438	NAV143	0.050		1.333		0.169	0.169	0.076	1.80	1.70	9.1	1.350	0.056		0.130	5080		1790					
1.500	NAV150	0.050		1.387		0.173	0.173	0.076	1.87	1.77	9.8	1.406	0.056		0.140	5940		1990					
1.562	NAV156	0.062		1.446		0.178	0.178	0.076	1.95	1.86	12.9	1.468	0.068		0.141	5705		2075					
1.625	NAV162	0.062		±0.003	1.503		0.183	0.183	0.076	2.02	1.93	13.4	1.529		±.006	0.068		+ .005 - .000	0.144	5935	2205		
1.750	NAV175	0.062	1.637		+ .013	0.196	0.196	0.076	2.18	2.08	16.1	1.650	0.068	0.150		6390	2475						
1.772	NAV177	0.062	1.637		- .020	0.196	0.196	0.076	2.20	2.10	16.1	1.669	0.068	0.153		6470	2580						
1.812	NAV181	0.062	1.675			0.199	0.199	0.076	2.24	2.14	17.3	1.708	0.068	0.156		6615	2665						
1.969	NAV196	0.062	1.819			0.212	0.212	0.076	2.43	2.32	20.5	1.857	0.068	0.168		7190	3115						
2.000	NAV200	0.062	±0.003		1.850		0.216	0.216	0.076	2.47	2.36	20.7	1.886	±.006		0.068	+ .005 - .000		0.171	7300	3225		
2.125	NAV212	0.078		1.993	+ .015	0.219	0.219	0.118	2.62	2.50	30.0	2.003	0.086		0.183	9765		3665					
2.156	NAV215	0.078		1.993	- .025	0.229	0.229	0.118	2.65	2.53	30.0	2.032	0.086		0.186	9905		3780					
2.500	NAV250	0.078		2.313		0.259	0.259	0.118	3.05	2.92	43.5	2.360	0.086		0.210	11490		4950					
2.750	NAV275	0.093		2.543		0.280	0.280	0.118	3.34	3.20	57.9	2.602	0.103		0.222	15060		5753					
2.875	NAV287	0.093		±0.003	2.659	+ .020	0.290	0.290	0.118	3.49	3.34	64.5	2.721		±.006	0.103		+ .005 - .000	0.231	15750	6260		
3.155	NAV315	0.093	2.920		- .030	0.316	0.316	0.118	3.82	3.66	77.0	2.986	0.103	0.255		17280	7580						
3.250	NAV325	0.093	3.006			0.324	0.324	0.118	3.93	3.76	77.0	3.076	0.103	0.261		17800	8000						
3.500	NAV350	0.109	3.237			0.345	0.345	0.123	4.22	4.04	107.0	3.316	0.120	0.276		22470	9100						
3.938	NAV393	0.109	3.642			0.368	0.368	0.123	4.71	4.51	123.0	3.734	0.120	0.306		25280	11360						

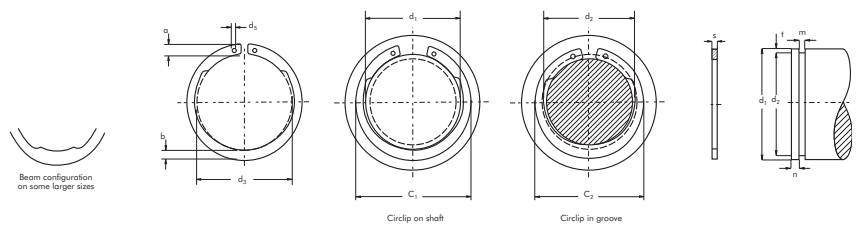
 **Part Number**
 Référence Teile Nummer Referencia de pieza

 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



Circlips type 'V' V-Ringe für Bohrungen Anillos para agujeros tipo 'V' V-RINGS FOR BORES

d ₁	M1308 JV															D A T A						
		s	Δ	d ₃	Δ	b	Δ	d ₅ min.	C ₁	C ₂	(kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	K (kN/mm)
10	JV10	0.60		10.9		1.5		0.9	6.7	7.3	0.15	10.5		0.70	0.25	0.7	0.52	1.7	0.5	1.0	3.1	5.7
12	JV12	0.60	-0.05	13.1		1.8		1.0	8.1	8.8	0.25	12.6		0.70	0.30	0.9	0.75	1.8	0.8	1.0	4.5	5.5
15	JV15	0.80		16.1		2.0		1.0	10.7	11.5	0.41	15.7		0.90	0.35	1.0	1.33	3.3	1.0	1.9	8.0	11.0
16	JV16	1.00		17.3		2.1		1.3	11.5	12.4	0.53	16.8	+0.11	1.10	0.40	1.2	1.67	5.2	1.0	3.1	10.0	22.7
17	JV17	1.00		18.3		2.1		1.3	12.5	13.4	0.58	17.8		1.10	0.40	1.2	1.70	5.8	1.0	3.0	11.0	21.2
18	JV18	1.00		19.5	+0.42	2.2		1.3	13.3	14.4	0.62	19.0		1.10	0.50	1.5	1.78	6.3	1.0	3.0	14.0	20.4
19	JV19	1.00		20.5	-0.13	2.2		1.3	14.3	15.4	0.66	20.0		1.10	0.50	1.5	2.50	6.6	1.0	2.8	15.0	19.2
20	JV20	1.00		21.5		2.3		1.3	15.1	16.2	0.80	21.0	+0.15	1.10	0.50	1.5	2.66	7.0	1.0	2.9	16.0	19.0
21	JV21	1.00		22.5		2.4		1.3	15.9	17.0	0.81	22.0		1.10	0.50	1.5	2.73	7.4	1.0	2.8	17.0	18.5
22	JV22	1.00		23.5		2.4		1.3	16.9	18.0	0.83	23.0		1.10	0.50	1.5	2.80	7.5	1.0	2.8	17.0	17.8
24	JV24	1.20		25.9	+0.42	2.8	±0.1	1.5	18.1	19.4	1.30	25.2		1.30	0.60	1.8	3.68	14.5	1.0	4.8	22.0	29.9
25	JV25	1.20		26.9		2.8		1.5	18.9	20.2	1.40	26.2		1.30	0.60	1.8	4.00	14.8	1.0	5.0	24.0	30.6
26	JV26	1.20		27.9	-0.21	3.0		1.5	19.7	21.0	1.50	27.2	+0.21	1.30	0.60	1.8	4.17	15.3	1.0	5.2	25.0	31.4
27	JV27	1.20		29.1		3.0		1.5	20.7	22.2	1.53	28.4		1.30	0.70	2.1	5.00	15.0	1.0	5.1	30.0	29.9
28	JV28	1.20	-0.06	30.1		3.1		1.5	21.5	23.0	1.80	29.4		1.30	0.70	2.1	5.10	15.3	1.0	5.2	31.0	30.4
30	JV30	1.20		32.1	+0.50	3.2		1.5	23.3	24.8	2.03	31.4		1.30	0.70	2.1	5.50	14.9	1.0	5.1	33.0	29.0
32	JV32	1.20		34.4		3.3		1.5	25.1	26.9	2.05	33.7		1.30	0.85	2.5	7.00	14.1	1.0	4.9	42.0	27.4
33	JV33	1.20		35.5	-0.25	3.3		1.5	26.1	27.9	2.35	34.7	+0.25	1.30	0.85	2.5	7.30	13.8	1.0	4.8	44.0	26.6
35	JV35	1.50		37.8		3.4		1.7	27.9	30.0	3.20	37.0		1.60	1.00	3.0	9.20	26.4	1.5	6.3	55.0	49.6
36	JV36	1.50		38.8		3.6		1.7	28.5	30.6	3.23	38.0		1.60	1.00	3.0	9.70	27.5	1.5	6.6	58.0	51.5
38	JV38	1.50		40.8	+0.90	3.8		1.7	30.1	32.2	3.68	40.0		1.60	1.00	3.0	10.20	28.0	1.5	6.7	61.0	51.2
40	JV40	1.75		43.5		4.2		2.0	31.0	33.7	4.75	42.5	+0.25	1.85	1.25	3.8	13.50	45.5	2.0	8.4	81.0	82.5
42	JV42	1.75		45.5	-0.39	4.2		2.0	33.0	35.7	5.20	44.5		1.85	1.25	3.8	14.10	45.5	2.0	8.5	85.0	82.5
45	JV45	1.75		48.5		4.2		2.0	35.6	38.7	6.00	47.5		1.85	1.25	3.8	15.00	44.0	2.0	8.4	90.0	79.5
47	JV47	1.75		50.5		4.7		2.0	37.0	39.7	6.50	49.5		1.85	1.25	3.8	15.80	45.0	2.0	8.7	95.0	81.3
48	JV48	1.75		51.5	+1.10	4.7	±0.2	2.0	38.0	40.7	7.00	50.5		1.85	1.25	3.8	16.00	48.0	2.0	9.1	96.0	85.8
50	JV50	2.00		54.2		5.2		2.5	39.0	42.2	8.50	53.0	+0.30	2.15	1.50	4.5	20.00	69.0	2.0	13.4	120.0	124.0
52	JV52	2.00		56.2		5.2		2.5	41.0	44.2	9.00	55.0		2.15	1.50	4.5	20.80	66.5	2.0	13.3	125.0	121.0
55	JV55	2.00		59.2	-0.46	5.2		2.5	44.0	47.2	10.00	58.0		2.15	1.50	4.5	22.20	66.0	2.0	13.3	133.0	118.0
57	JV57	2.00		61.2		5.2		2.5	46.0	49.2	10.25	60.0		2.15	1.50	4.5	23.00	65.0	2.0	13.1	138.0	115.0
58	JV58	2.00	-0.07	62.2		5.2		2.5	47.0	50.2	10.50	61.0		2.15	1.50	4.5	23.30	64.0	2.0	12.9	140.0	113.0
60	JV60	2.00		64.2		5.2		2.5	49.0	52.2	11.25	63.0		2.15	1.50	4.5	24.20	62.0	2.0	12.7	145.0	111.0
62	JV62	2.00		66.2		5.2		2.5	51.0	54.2	11.75	65.0		2.15	1.50	4.5	25.00	60.0	2.0	12.3	150.0	107.0
65	JV65	2.50		69.2		5.7		2.5	52.2	56.0	16.25	68.0		2.65	1.50	4.5	25.80	122.0	2.5	20.6	155.0	218.0
67	JV67	2.50		71.5		5.7	±0.3	2.5	54.7	58.0	17.30	70.0		2.65	1.50	4.5	26.80	122.0	2.5	20.8	161.0	218.0

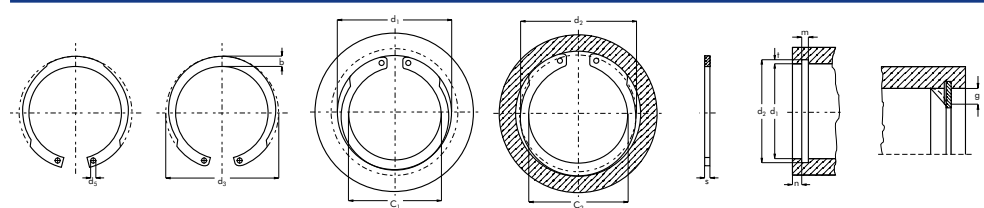
Part Number
 Référence Teile Nummer Referencia de pieza




Tolerance
 Tolérance Toleranz Tolerancia

Weight
 Masse Gewicht Peso

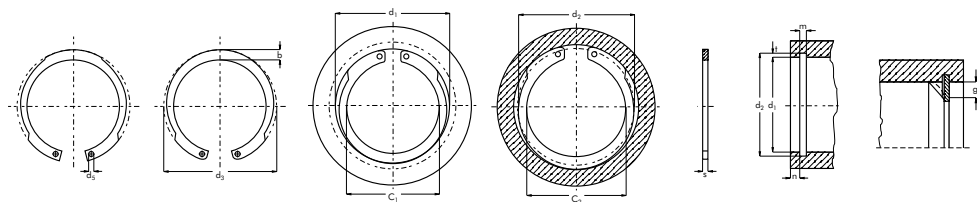
Ring
 Anneau/Circlips Ring Anillo

Groove
 Gorge Nut Ranura





d ₁	M1308 JV															D A T A						
		s	Δ	d ₃	Δ	b	Δ	d ₅ min.	C ₁	C ₂	 (kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	K (kN/mm)
68	JV68	2.50	-0.07	72.5	+1.10	5.7	±0.3	2.5	55.7	59.0	17.75	71.0	+0.30	2.65	1.50	4.5	27.20	123.0	2.5	21.0	163	220.0
72	JV72	2.50		76.5	-0.46	6.0		2.5	59.1	62.4	19.60	75.0	+0.35	2.65	1.50	4.5	28.80	119.0	2.5	20.8	173	214.0
80	JV80	2.50		85.5	+1.30	6.0		2.5	67.1	70.9	22.90	83.5		2.65	1.75	5.3	37.40	110.0	2.5	19.6	224	196.0
85	JV85	3.00		90.5		-0.54		6.6	3.0	70.9	74.7	30.00		88.5	3.15	1.75	5.3	39.70	176.0	3.0	27.2	238	318.0
90	JV90	3.00	95.5	6.6	3.0	75.3	79.7	33.00	93.5	3.15	1.75	5.3		42.00	169.0	3.0	26.6	252	309.0			
95	JV95	3.00	-0.08	100.5	±0.3	7.4	3.0	78.7	83.1	37.50	98.5	+0.35	3.15	1.75	5.3	43.50	168.0	3.0	27.0	261	315.0	
100	JV100	3.00		105.5		7.4	3.0	83.6	88.1	41.90	103.5		3.15	1.75	5.3	46.70	165.0	3.0	26.8	280	312.0	

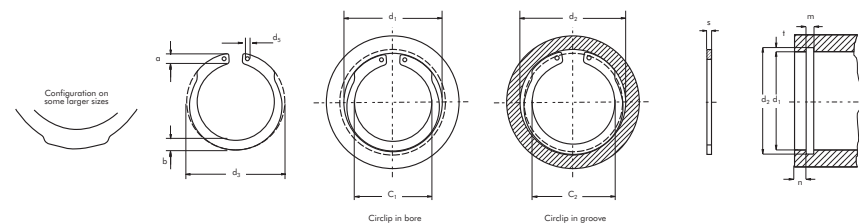
	Part Number Référence Teile Nummer Referencia de pieza		Tolerance Tolérance Toleranz Tolerancia		Weight Masse Gewicht Peso		Ring Anneau/Circlips Ring Anillo		Groove Gorge Nut Ranura
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Circlips type 'V' cote pouce V-Ringe für Bohrungen Zoll-Standard Anillos para agujeros tipo 'V' pulgadas standard V-RINGS FOR BORES INCH STANDARD

d ₁	N1308 NJV	s														D A T A							
			Δ	d ₃	Δ	a max.	b ≈	d ₅ min.	C ₁	C ₂	(lbs/1000)	d ₂	Δ	m	Δ	n min.	T _c	T _g					
0.625	NJV62	0.025	±0.002	0.675	+ .010 - .005	0.072	0.072	0.028	0.47	0.51	0.7	0.665	± .002	0.029	+ .003 - .000	0.060	1100	353					
0.750	NJV75	0.035		0.808		0.085	0.085	0.040	0.56	0.61	1.3	0.796		0.039		0.069	1850	201					
0.812	NJV81	0.042		0.877		0.092	0.092	0.040	0.61	0.66	2.0	0.862		0.046		0.075	2410	574					
0.875	NJV87	0.042		0.944		0.099	0.099	0.040	0.66	0.72	2.2	0.931		0.045		0.084	2600	693					
0.938	NJV93	0.042		1.015		0.106	0.106	0.040	0.70	0.77	2.8	1.000		0.046		0.093	2780	820					
1.000	NJV100	0.042	±0.002	1.081	+ .015 - .005	0.113	0.113	0.040	0.75	0.83	2.9	1.066	± .004	0.046	+ .004 - .000	0.099	2970	933					
1.062	NJV106	0.050		1.150		0.120	0.120	0.048	0.80	0.87	3.8	1.130		0.056		0.102	3750	1020					
1.125	NJV112	0.050		1.217		0.123	0.123	0.048	0.85	0.93	4.4	1.197		0.056		0.108	3980	1140					
1.188	NJV118	0.050		1.283		0.126	0.126	0.048	0.91	0.99	4.9	1.262		0.056		0.111	4200	1240					
1.250	NJV125	0.050		1.351		0.129	0.129	0.048	0.96	1.06	5.0	1.330		0.056		0.120	4410	1410					
1.312	NJV131	0.050	±0.003	1.418	+ .025 - .005	0.132	0.132	0.048	1.02	1.12	5.3	1.396	± .005	0.056	+ .004 - .000	0.126	4640	1560					
1.375	NJV137	0.050		1.486		0.135	0.135	0.048	1.08	1.17	5.9	1.461		0.056		0.129	4860	1670					
1.438	NJV143	0.050		1.552		0.144	0.144	0.074	1.13	1.24	6.3	1.528		0.056		0.135	5080	1830					
1.500	NJV150	0.050		1.622		0.148	0.148	0.074	1.18	1.28	6.8	1.594		0.056		0.141	5300	1990					
1.562	NJV156	0.062		1.688		0.158	0.158	0.074	1.22	1.32	8.9	1.658		0.068		0.144	5700	2120					
1.625	NJV162	0.062	±0.003	1.756	+ .025 - .005	0.162	0.162	0.074	1.27	1.37	10.4	1.725	± .006	0.068	+ .005 - .000	0.150	5935	2300					
1.688	NJV168	0.062		1.823		0.170	0.170	0.074	1.32	1.42	11.9	1.792		0.068		0.156	6165	2480					
1.750	NJV175	0.062		1.891		0.166	0.166	0.074	1.38	1.49	11.8	1.858		0.068		0.162	6390	2670					
1.875	NJV187	0.062		2.025		0.188	0.188	0.074	1.47	1.58	14.8	1.989		0.068		0.171	6850	3020					
2.000	NJV200	0.062		2.160		0.208	0.208	0.074	1.55	1.67	17.4	2.122		0.068		0.183	7300	3450					
2.062	NJV206	0.078	±0.003	2.224	+ .030 - .020	0.218	0.218	0.092	1.59	1.71	23.2	2.186	± .006	0.086	+ .005 - .000	0.186	9475	3615					
2.125	NJV212	0.078		2.295		0.223	0.223	0.092	1.65	1.77	24.3	2.251		0.086		0.189	9760	3785					
2.375	NJV237	0.078		2.567		0.243	0.243	0.092	1.86	2.00	28.6	2.517		0.086		0.213	10900	4770					
2.438	NJV243	0.078		2.634		0.248	0.248	0.092	1.91	2.05	30.6	2.584		0.086		0.216	11200	5030					
2.500	NJV250	0.078		2.700		0.254	0.254	0.092	1.96	2.10	32.1	2.648		0.086		0.222	11490	5230					

 Part Number Référence Teile Nummer Referencia de pieza	 Tolerance Tolérance Toleranz Tolerancia	 Weight Masse Gewicht Peso	 Ring Anneau/Circlips Ring Anillo	 Groove Gorge Nut Ranura
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d ₁	DIN983 D2100 AK															D A T A								
		s	Δ	d ₃	Δ	a max.	b ≈	d ₅ min.	C ₁	C ₂	 (kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	K (kN/mm)		n _{det.} x1000 (rpm)
16	AK16	1.00		14.7		3.5	2.3	1.7	23.2	22.2	0.82	15.2		1.10	0.40	1.2	3.26	7.4	1.0	2.4	19.6	21.0	4	45
17	AK17	1.00		15.7	+0.10	3.6	2.4	1.7	24.4	23.4	0.93	16.2	-0.11	1.10	0.40	1.2	3.46	8.0	1.0	2.4	20.8	21.6	4	41
18	AK18	1.20		16.5	-0.36	3.7	2.5	2.0	25.6	24.4	1.24	17.0		1.30	0.50	1.5	4.58	17.0	1.5	3.7	27.5	37.1	4	38
19	AK19	1.20		17.5		3.7	2.6	2.0	26.6	25.4	1.35	18.0		1.30	0.50	1.5	4.85	17.0	1.5	3.8	29.0	36.4	4	33
20	AK20	1.20		18.5		3.8	2.6	2.0	27.8	26.6	1.45	19.0		1.30	0.50	1.5	5.06	17.1	1.5	3.8	30.6	36.3	4	30
22	AK22	1.20		20.5	+0.13	4.0	2.8	2.0	30.2	29.0	1.77	21.0	-0.15	1.30	0.50	1.5	5.65	16.9	1.5	3.8	33.8	35.4	4	26
23	AK23	1.20		21.5	-0.42	4.1	2.9	2.0	31.4	30.2	1.84	22.0		1.30	0.50	1.5	5.90	16.6	1.5	3.8	35.4	34.7	4	24
24	AK24	1.20		22.2		4.2	3.0	2.0	32.6	31.3	1.98	22.9		1.30	0.55	1.6	6.75	16.1	1.5	3.6	40.5	33.4	4	26
25	AK25	1.20		23.2		4.3	3.0	2.0	33.8	32.5	2.12	23.9		1.30	0.55	1.6	7.05	16.2	1.5	3.7	42.3	33.4	4	24
26	AK26	1.20		24.2		4.4	3.1	2.0	35.0	33.7	2.18	24.9		1.30	0.55	1.6	7.34	16.1	1.5	3.7	44.0	32.9	4	22
28	AK28	1.50	-0.06	25.9	+0.21	4.5	3.3	2.0	37.3	35.6	3.15	26.6	-0.21	1.60	0.70	2.1	10.00	32.1	1.5	7.5	60.0	65.0	4	20
29	AK29	1.50		26.9	-0.42	4.7	3.4	2.0	38.7	37.0	3.35	27.6		1.60	0.70	2.1	10.30	31.8	1.5	7.4	62.2	64.0	4	19
30	AK30	1.50		27.9		4.7	3.4	2.0	39.7	37.9	3.65	28.6		1.60	0.70	2.1	10.70	32.1	1.5	7.6	64.4	64.2	4	18
32	AK32	1.50		29.6		5.0	3.6	2.5	42.4	40.3	4.00	30.3		1.60	0.85	2.5	13.80	31.2	2.0	5.5	83.1	61.8	4	16
34	AK34	1.50		31.5		5.1	3.8	2.5	44.6	42.5	4.15	32.3		1.60	0.85	2.5	14.70	31.3	2.0	5.6	88.3	61.3	4	16
35	AK35	1.50		32.2	+0.25	5.2	3.8	2.5	45.8	43.4	4.38	33.0	-0.25	1.60	1.00	3.0	17.80	30.8	2.0	5.5	106.0	60.1	4	15
37	AK37	1.75		34.2	-0.50	5.4	4.0	2.5	48.2	45.8	6.30	35.0		1.85	1.00	3.0	18.80	50.0	2.0	9.1	113.0	96.4	4	13
38	AK38	1.75		35.2		5.5	4.1	2.5	49.4	47.0	6.50	36.0		1.85	1.00	3.0	19.30	49.5	2.0	9.1	116.0	95.0	4	13
40	AK40	1.75		36.5		7.2	4.2	2.5	54.9	51.9	7.00	37.5		1.85	1.25	3.8	25.30	51.0	2.0	9.5	152.0	96.9	4	14
42	AK42	1.75		38.5		7.2	4.5	2.5	56.9	53.9	7.50	39.5		1.85	1.25	3.8	26.70	50.0	2.0	9.4	160.0	93.7	4	13
45	AK45	1.75		41.5	+0.39	7.2	4.6	2.5	59.9	56.9	8.50	42.5	-0.25	1.85	1.25	3.8	28.60	49.0	2.0	9.3	172.0	91.0	4	11
47	AK47	1.75		43.5	-0.90	7.2	4.8	2.5	61.9	58.9	8.70	44.5		1.85	1.25	3.8	30.00	49.5	2.0	9.5	180.0	90.7	4	10
48	AK48	1.75		44.5		7.2	4.9	2.5	62.9	59.9	8.90	45.5		1.85	1.25	3.8	30.70	49.4	2.0	9.5	184.0	90.0	4	9
50	AK50	2.00		45.8		8.2	5.0	2.5	67.0	63.4	11.55	47.0		2.15	1.50	4.5	38.00	73.3	2.0	14.4	228.0	133.0	4	10
55	AK55	2.00		50.8		8.2	5.4	2.5	72.0	68.4	12.99	52.0		2.15	1.50	4.5	42.00	71.4	2.5	11.4	252.0	130.0	4	8
57	AK57	2.00		52.8		8.2	5.6	2.5	74.0	70.4	14.00	54.0	-0.30	2.15	1.50	4.5	43.70	70.9	2.5	11.4	262.0	128.0	4	8
58	AK58	2.00		53.8		8.2	5.7	2.5	75.0	71.4	14.30	55.0		2.15	1.50	4.5	44.30	71.1	2.5	11.5	266.0	129.0	4	8
60	AK60	2.00		55.8		8.2	5.8	2.5	77.0	73.4	14.80	57.0		2.15	1.50	4.5	46.00	69.3	2.5	11.3	276.0	126.0	4	7
62	AK62	2.00		57.8	+0.46	8.2	5.9	2.5	79.0	75.4	15.90	59.0		2.15	1.50	4.5	47.50	69.3	2.5	11.4	285.0	126.0	4	7
65	AK65	2.50	-0.07	60.8	1.10	10.2	6.2	3.0	86.0	82.4	21.70	62.0		2.65	1.50	4.5	49.80	135.0	2.5	22.7	299.0	245.0	4	6
67	AK67	2.50		62.5		10.2	6.4	3.0	88.0	84.4	22.60	64.0		2.65	1.50	4.5	51.30	136.0	2.5	23.0	308.0	245.0	4	7
68	AK68	2.50		63.5		10.2	6.5	3.0	89.0	85.4	23.50	65.0		2.65	1.50	4.5	52.20	135.0	2.5	23.0	313.0	244.0	4	7
70	AK70	2.50		65.5		10.2	6.6	3.0	91.0	87.4	25.10	67.0		2.65	1.50	4.5	53.80	134.0	2.5	23.0	323.0	241.0	4	6
75	AK75	2.50		70.5		10.2	7.0	3.0	96.2	92.4	28.20	72.0		2.65	1.50	4.5	57.60	130.0	2.5	22.8	346.0	234.0	4	6
80	AK80	2.50		74.5		10.2	7.4	3.0	101.2	96.9	30.75	76.5		2.65	1.75	5.3	71.60	128.0	3.0	19.5	430.0	236.0	4	6

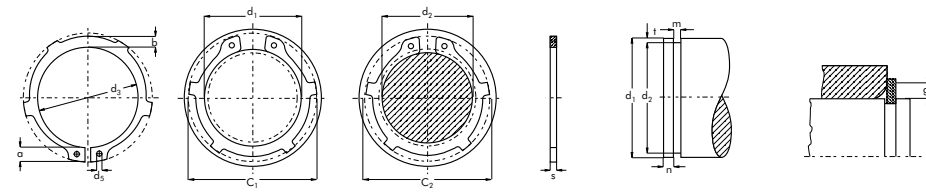
 **Part Number**
 Référence Teile Nummer Referencia de pieza





 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

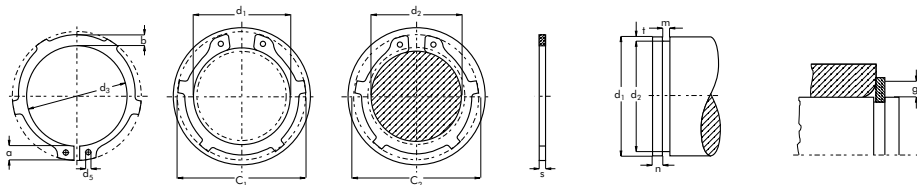
 **Ring**
 Anneau/Circlips Ring Anillo





 **Groove**
 Gorge Nut Ranura



d ₁	DIN983 D2100 AK															D A T A								
		s	Δ	d ₃	Δ	a max.	b ≈	d ₅ min.	C ₁	C ₂	 (kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	K (kN/mm)		n _{def.} x1000 (rpm)
85	AK85	3.00	-0.08	79.5	+0.46 -1.10	10.2	7.8	3.5	106.2	101.9	39.50	81.5	-0.35	3.15	1.75	5.3	76.20	215.0	3.0	33.4	457.0	405.0	4	5
90	AK90	3.00		84.5	+0.46 -1.10	10.2	8.2	3.5	111.2	106.9	47.70	86.5		3.15	1.75	5.3	80.80	217.0	3.0	34.4	485.0	401.0	4	5
95	AK95	3.00		89.5		10.2	8.6	3.5	116.2	111.9	53.00	91.5		3.15	1.75	5.3	85.50	212.0	3.5	29.3	513.0	400.0	4	4
100	AK100	3.00	-0.10	94.5	+0.54 -1.30	10.2	9.0	3.5	121.4	116.9	56.60	96.5	-0.54	3.15	1.75	5.3	90.00	206.0	3.5	29.0	540.0	397.0	4	4
110	AK110	4.00		103.0		12.2	9.6	3.5	135.4	130.4	84.60	106.0		4.15	2.00	6.0	113.00	457.0	3.5	66.9	678.0	914.0	4	4
120	AK120	4.00	-0.10	113.0	+0.54 -1.30	14.2	10.1	3.5	149.6	144.4	89.70	116.0	-0.63	4.15	2.00	6.0	123.00	424.0	3.5	64.5	741.0	882.0	4	4
130	AK130	4.00		123.0		14.2	10.7	4.0	159.7	154.4	105.00	126.0		4.15	2.00	6.0	134.00	395.0	4.0	55.2	804.0	852.0	4	3
140	AK140	4.00		133.0		14.2	11.2	4.0	169.8	164.4	115.00	136.0		4.15	2.00	6.0	144.00	376.0	4.0	54.4	867.0	840.0	4	3

	Part Number Référence Teile Nummer Referencia de pieza		Tolerance Tolérance Toleranz Tolerancia		Weight Masse Gewicht Peso		Ring Anneau/Circlips Ring Anillo		Groove Gorge Nut Ranura
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d ₁	DIN984 D2000 JK															D A T A							
		s	Δ	d ₃	Δ	a max.	b =	d _{5 min.}	C ₁	C ₂	 (kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	B	
16	JK16	1.00		17.3		3.4	2.1	1.7	9.0	10.0	0.72	16.8	+0.11	1.10	0.40	1.2	3.40	5.5	1.0	2.5	20.6	18.4	4
17	JK17	1.00		18.3		3.7	2.2	1.7	9.4	10.4	0.80	17.8		1.10	0.40	1.2	3.60	6.0	1.0	2.5	21.8	18.1	4
18	JK18	1.00		19.5		4.1	2.3	2.0	9.6	10.8	0.90	19.0		1.10	0.50	1.5	4.80	6.5	1.0	2.6	29.0	18.2	4
19	JK19	1.00		20.5	+0.42	3.8	2.3	2.0	11.2	12.4	0.99	20.0		1.10	0.50	1.5	5.10	6.8	1.0	2.6	30.6	17.2	4
20	JK20	1.00		21.5	-0.13	3.9	2.4	2.0	12.0	13.2	1.06	21.0		1.10	0.50	1.5	5.40	7.2	1.0	2.6	32.2	16.9	4
21	JK21	1.00		22.5		4.0	2.4	2.0	12.8	14.0	1.17	22.0	+0.15	1.10	0.50	1.5	5.70	7.6	1.0	2.6	33.8	17.2	4
22	JK22	1.00		23.5		4.0	2.6	2.0	13.8	15.0	1.28	23.0		1.10	0.50	1.5	5.90	8.0	1.0	2.7	35.3	17.6	4
23	JK23	1.20		24.6		4.1	2.6	2.0	14.6	15.9	1.48	24.1		1.30	0.55	1.6	6.80	13.8	1.0	4.5	40.7	28.8	4
24	JK24	1.20		25.9		4.2	2.6	2.0	15.4	16.8	1.60	25.2		1.30	0.60	1.8	7.70	13.9	1.0	4.6	46.3	28.4	4
25	JK25	1.20		26.9		4.4	2.8	2.0	16.0	17.4	1.72	26.2		1.30	0.60	1.8	8.00	14.6	1.0	4.7	48.2	29.0	4
26	JK26	1.20		28.5	+0.42	4.4	2.8	2.0	17.0	18.4	2.00	27.2	+0.21	1.30	0.60	1.8	8.40	13.8	1.0	4.6	50.1	27.8	4
27	JK27	1.20		29.1	-0.21	4.5	2.9	2.0	17.8	19.4	2.00	28.4		1.30	0.70	2.1	10.10	13.3	1.0	4.5	60.9	26.6	4
28	JK28	1.20		30.1		4.9	3.0	2.0	18.0	19.6	2.10	29.4		1.30	0.70	2.1	10.50	13.3	1.0	4.5	63.1	26.3	4
30	JK30	1.20		32.1		4.9	3.2	2.0	20.0	21.6	2.35	31.4		1.30	0.70	2.1	11.30	13.7	1.0	4.6	67.5	26.6	4
31	JK31	1.20		33.4		5.0	3.2	2.5	20.8	22.7	2.42	32.7		1.30	0.85	2.5	14.10	13.8	1.0	4.7	84.8	26.8	4
32	JK32	1.20	-0.06	34.4		5.1	3.3	2.5	21.5	23.5	2.50	33.7		1.30	0.85	2.5	14.60	13.8	1.0	4.7	87.9	26.6	4
33	JK33	1.20		35.5	+0.50	5.1	3.3	2.5	22.5	24.5	2.65	34.7		1.30	0.85	2.5	15.00	14.3	1.5	4.9	90.3	27.0	4
34	JK34	1.50		36.5	-0.25	5.3	3.4	2.5	23.1	25.1	3.80	35.7		1.60	0.85	2.5	15.40	26.2	1.5	6.3	92.6	50.0	4
35	JK35	1.50		37.8		5.5	3.6	2.5	23.7	26.0	4.00	37.0		1.60	1.00	3.0	18.80	26.9	1.5	6.4	113.0	50.5	4
36	JK36	1.50		38.8		5.6	3.6	2.5	24.5	26.8	4.15	38.0	+0.25	1.60	1.00	3.0	19.40	26.4	1.5	6.4	116.0	50.2	4
38	JK38	1.50		40.8		6.1	3.8	2.5	25.5	27.8	4.40	40.0		1.60	1.00	3.0	22.50	28.2	1.5	6.7	123.0	51.7	4
40	JK40	1.75		43.5		7.2	4.0	2.5	25.2	28.1	5.30	42.5		1.85	1.25	3.8	27.00	44.6	2.0	8.3	162.0	80.1	4
42	JK42	1.75		45.5	+0.90	7.2	4.1	2.5	27.2	30.1	6.00	44.5		1.85	1.25	3.8	28.40	44.7	2.0	8.4	170.0	80.9	4
44	JK44	1.75		47.5	-0.39	7.2	4.2	2.5	29.3	32.1	6.45	46.5		1.85	1.25	3.8	29.50	43.3	2.0	8.3	177.0	78.6	4
45	JK45	1.75		48.5		7.2	4.3	2.5	30.3	33.1	6.60	47.5		1.85	1.25	3.8	30.20	43.1	2.0	8.2	181.0	78.1	4
47	JK47	1.75		50.5		7.2	4.5	2.5	32.3	35.1	6.90	49.5		1.85	1.25	3.8	31.40	43.5	2.0	8.3	189.0	78.9	4
48	JK48	1.75		51.5		7.2	4.5	2.5	33.3	36.1	7.50	50.5		1.85	1.25	3.8	32.00	43.2	2.0	8.4	193.0	78.5	4
50	JK50	2.00		54.2		8.2	4.7	2.5	33.3	36.6	8.50	53.0		2.15	1.50	4.5	40.50	60.8	2.0	12.1	243.0	111.0	4
52	JK52	2.00		56.2		8.2	4.7	2.5	35.2	38.6	9.40	55.0		2.15	1.50	4.5	42.00	60.2	2.0	12.0	252.0	108.0	4
55	JK55	2.00		59.2	+1.10	8.2	5.1	2.5	38.2	41.6	9.75	58.0		2.15	1.50	4.5	44.40	60.3	2.0	12.5	266.0	111.0	4
57	JK57	2.00	-0.07	61.2	-0.46	8.2	5.2	2.5	40.2	43.6	11.65	60.0	+0.30	2.15	1.50	4.5	46.00	60.8	2.0	12.7	276.0	112.0	4
58	JK58	2.00		62.2		8.2	5.3	2.5	41.2	44.6	12.00	61.0		2.15	1.50	4.5	46.70	60.8	2.0	12.7	280.0	112.0	4
60	JK60	2.00		64.2		8.2	5.5	2.5	43.2	46.6	12.70	63.0		2.15	1.50	4.5	48.30	61.0	2.0	13.0	290.0	113.0	4
62	JK62	2.00		66.2		8.2	5.6	2.5	45.2	48.6	12.75	65.0		2.15	1.50	4.5	49.80	60.9	2.0	13.0	299.0	112.0	4
65	JK65	2.50		69.2		10.2	5.8	3.0	44.1	47.6	16.70	68.0		2.65	1.50	4.5	51.80	121.0	2.5	20.8	313.0	220.0	4

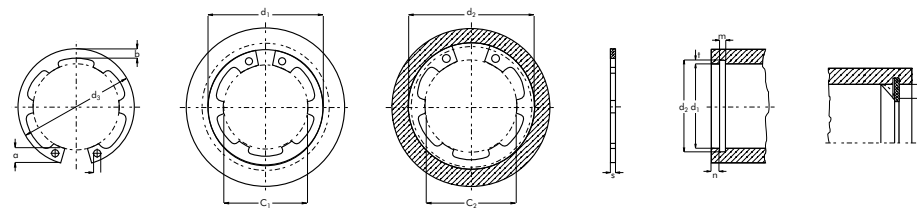
 **Part Number**
 Référence Teile Nummer Referencia de pieza

 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo





 **Groove**
 Gorge Nut Ranura



DIN 984/D2000/JK



Circlips type 'K' K-Ringe für Bohrungen Anillos para agujeros tipo 'K' K-RINGS FOR BORES

d ₁	DIN984 D2000 JK														D A T A								
		s	Δ	d ₃	Δ	a max.	b ≈	d ₅ min.	C ₁	C ₂	 (kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	B	
67	JK67	2.50	-0.07	71.5	+1.10 -0.46	10.2	6.0	3.0	46.1	49.6	18.60	70.0	+0.30	2.65	1.50	4.5	53.80	121.0	2.5	21.1	323.0	222.0	4
68	JK68	2.50		72.5		10.2	6.1	3.0	47.1	50.6	19.30	71.0		2.65	1.50	4.5	54.50	121.0	2.5	21.2	327.0	222.0	4
70	JK70	2.50		74.5		10.2	6.2	3.0	49.1	52.6	20.20	73.0		2.65	1.50	4.5	56.20	119.0	2.5	21.0	337.0	218.0	4
72	JK72	2.50		76.5		10.2	6.4	3.0	51.1	54.6	21.20	75.0		2.65	1.50	4.5	58.00	119.0	2.5	21.0	346.0	217.0	4
75	JK75	2.50		79.5		10.2	6.6	3.0	54.1	57.6	22.60	78.0		2.65	1.50	4.5	60.00	118.0	2.5	21.0	360.0	215.0	4
80	JK80	2.50	-0.08	85.5	+1.30 -0.54	10.2	7.0	3.0	59.1	63.1	25.00	83.5	+0.35	2.65	1.75	5.3	74.60	120.0	2.5	21.8	448.0	219.0	4
85	JK85	3.00		90.5		12.2	7.4	3.5	60.1	64.1	30.10	88.5		3.15	1.75	5.3	79.50	201.0	3.0	31.2	477.0	364.0	4
90	JK90	3.00		95.5		12.2	7.7	3.5	65.1	69.1	35.50	93.5		3.15	1.75	5.3	84.00	199.0	3.0	31.4	504.0	364.0	4
95	JK95	3.00		100.5		12.2	8.1	3.5	70.1	74.1	40.00	98.5		3.15	1.75	5.3	88.60	195.0	3.0	31.4	532.0	365.0	4
100	JK100	3.00		105.5		12.2	8.5	3.5	75.1	79.1	43.50	103.5		3.15	1.75	5.3	93.10	188.0	3.0	30.8	559.0	359.0	4
110	JK110	4.00	-0.10	117.0	+1.50 -0.63	12.2	9.0	3.5	85.1	89.6	73.00	114.0	+0.54	4.15	2.00	6.0	117.00	415.0	3.0	71.0	704.0	824.0	4
115	JK115	4.00		122.0		12.2	9.3	3.5	89.5	94.6	82.00	119.0		4.15	2.00	6.0	122.00	409.0	3.0	71.2	735.0	829.0	4
120	JK120	4.00		127.0		12.2	9.6	3.5	94.4	99.6	87.00	124.0		4.15	2.00	6.0	127.00	396.0	3.0	70.0	767.0	818.0	4
125	JK125	4.00		132.0		12.2	9.9	4.0	99.4	104.6	92.00	129.0		4.15	2.00	6.0	132.00	385.0	3.0	70.0	797.0	809.0	4
130	JK130	4.00		137.0		12.2	10.2	4.0	104.3	109.6	102.00	134.0		4.15	2.00	6.0	138.00	374.0	3.0	69.0	829.0	801.0	4
140	JK140	4.00	-0.10	148.0	+1.50 -0.63	14.2	10.7	4.0	110.2	115.6	112.00	144.0	+0.63	4.15	2.00	6.0	148.00	350.0	3.0	66.5	892.0	775.0	4
150	JK150	4.00		158.0		14.2	11.1	4.0	120.1	126.6	123.00	155.0		4.15	2.50	7.5	191.00	326.0	3.0	64.0	1198.0	748.0	4
160	JK160	4.00		169.0		14.2	11.8	4.5	130.0	136.6	133.00	165.0		4.15	2.50	7.5	212.00	321.0	3.5	54.5	1275.0	737.0	4
165	JK165	4.00		174.0		14.2	12.3	4.5	139.9	146.6	145.00	175.0		4.15	2.50	7.5	225.00	349.0	3.5	59.0	1355.0	800.0	4
170	JK170	4.00		179.5		14.2	12.3	4.5	139.9	146.6	145.00	175.0		4.15	2.50	7.5	225.00	349.0	3.5	59.0	1355.0	800.0	4

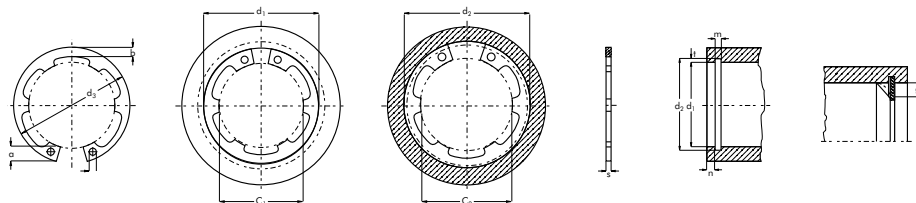
 **Part Number**
 Référence Teile Nummer Referencia de pieza

 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura

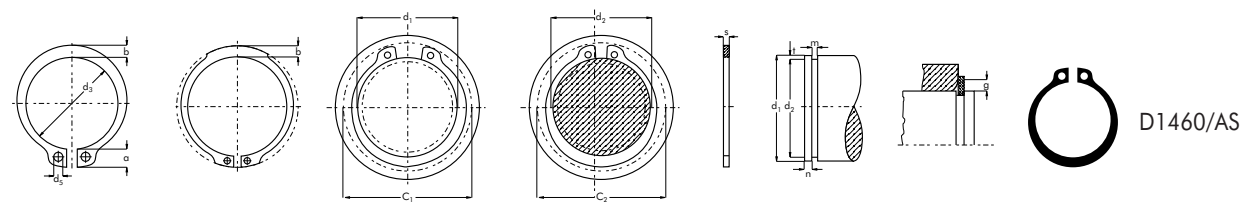


Circlips reforçés SD-Ringe (Sonderdicken) für Wellen Anillos reforzados RINGS FOR SHAFTS (HEAVY DUTY)




d ₁	D1460 AS	s	⊙									H				D A T A							
			Δ	d ₃	Δ	a max.	b ≈	d _{5 min.}	C ₁	C ₂	(kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	B	n _{det.} x1000 (rpm)
12	AS12	1.50	-0.06	11.0	+0.10 -0.36	3.4	1.8	1.7	19.3	18.3	0.75	11.5	-0.11	1.60	0.25	0.7	1.53	11.3	1.0	4.5	9.2	2.25	75
15	AS15	1.50		13.8		4.8	2.4	2.0	25.1	23.9	1.20	14.3		1.60	0.40	0.7	3.20	15.5	1.0	4.5	18.3	2.25	50
16	AS16	1.50		14.7		5.0	2.5	2.0	26.5	25.2	1.20	15.2		1.60	0.35	1.2	3.26	16.7	1.0	4.5	19.6	2.25	48
17	AS17	1.50	-0.06	15.7	+0.21 -0.42	5.0	2.6	2.0	27.5	26.2	1.24	16.2	-0.15	1.60	0.40	1.5	4.32	18.0	1.0	4.5	25.9	2.25	46
18	AS18	1.50		16.5		5.1	2.7	2.0	28.7	27.2	1.54	17.0		1.60	0.50	1.8	5.50	26.6	1.5	5.8	33.0	1.56	43
19	AS19	1.50		17.5		5.1	2.7	2.0	29.9	28.2	1.45	18.0		1.60	0.50	1.8	5.78	26.6	1.5	5.9	34.7	1.56	28
20	AS20	1.75		18.5		5.5	3.0	2.0	31.5	30.0	2.25	19.0		1.85	0.50	1.6	5.60	36.3	1.5	8.2	33.8	2.12	32
22	AS22	1.75	-0.07	20.5	+0.39 -0.90	6.0	3.1	2.0	34.5	33.0	2.30	21.0	-0.21	1.85	0.50	1.5	5.60	36.0	1.5	8.1	33.8	2.12	29
23	AS23	1.75		21.3		6.6	3.2	2.0	35.7	34.0	2.60	21.8		1.85	0.60	1.8	7.04	35.7	1.5	8.1	42.2	2.12	27
24	AS24	1.75		22.2		6.3	3.2	2.0	37.1	35.5	2.70	22.9		1.85	0.55	1.9	7.95	34.2	1.5	7.6	47.7	2.12	29
25	AS25	2.00	-0.07	23.2	+0.46 -1.10	6.4	3.4	2.0	38.3	36.7	3.35	23.9	-0.25	2.15	0.55	1.9	8.30	45.0	1.5	10.3	49.7	2.78	25
26	AS26	2.00		23.6		6.6	3.3	2.0	39.7	37.6	3.65	24.4		2.15	0.80	2.4	10.70	44.0	1.5	10.0	63.0	2.73	27
27	AS27	2.00		24.7		6.6	3.4	2.0	40.5	38.5	3.85	25.5		2.15	0.75	2.3	10.30	45.5	1.5	10.6	62.0	2.78	25
28	AS28	2.00		25.9		6.5	3.5	2.0	41.5	39.6	3.90	26.6		2.15	0.70	2.1	10.00	57.0	1.5	13.4	60.0	1.78	22
29	AS29	2.00	-0.08	26.9	+0.25 -0.50	6.5	3.8	2.0	42.5	40.6	4.30	27.6	-0.30	2.15	0.70	2.1	10.40	56.5	1.5	13.3	62.2	1.78	22
30	AS30	2.00		27.9		6.5	4.1	2.0	43.5	41.6	5.00	28.6		2.15	0.70	2.1	10.70	57.0	1.5	13.6	64.4	1.78	21
32	AS32	2.00		29.6		6.5	4.1	2.5	45.5	43.3	5.40	30.3		2.15	0.85	2.5	12.90	57.0	1.5	13.6	77.8	1.78	20
33	AS33	2.00	-0.08	30.5	+0.39 -0.90	6.7	4.0	2.5	46.9	44.7	5.20	31.3	-0.25	2.15	0.85	2.5	14.30	56.0	1.5	10.1	86.0	1.78	18
34	AS34	2.50		31.5		6.6	4.2	2.5	47.9	45.7	6.80	32.3		2.65	0.85	2.8	16.40	87.0	1.5	15.6	99.0	2.78	18
35	AS35	2.50		32.2		6.7	4.2	2.5	48.9	46.4	7.10	33.0		2.65	1.00	3.0	17.80	86.0	1.5	15.4	107.0	2.78	17
36	AS36	2.50		33.0		6.7	4.2	2.5	49.9	47.2	7.50	33.8		2.65	1.00	3.3	20.10	101.5	2.0	18.3	121.0	2.04	16
38	AS38	2.50	-0.08	35.2	+0.46 -1.10	5.8	4.3	2.5	52.1	49.6	8.00	36.0	-0.25	2.65	1.00	3.3	21.20	101.0	2.0	18.6	127.0	2.04	15
40	AS40	2.50		36.5		7.0	4.4	2.5	55.0	51.5	8.20	37.5		2.65	1.25	3.8	25.30	104.0	2.0	19.3	152.0	2.04	14
42	AS42	2.50		38.5		7.2	4.5	2.5	57.4	53.9	9.60	39.5		2.65	1.25	3.8	26.70	102.0	2.0	19.2	160.0	2.04	13
44	AS44	2.50		40.5		7.2	4.5	2.5	59.4	55.9	10.40	41.5		2.65	1.25	3.8	27.90	101.0	2.0	19.1	168.0	2.04	12
45	AS45	2.50	-0.08	41.5	+0.25 -0.50	7.5	4.7	2.5	61.0	57.5	10.80	42.5	-0.25	2.65	1.25	3.8	28.60	100.0	2.0	19.1	172.0	2.04	11
48	AS48	2.50		44.5		7.8	5.0	2.5	64.6	61.1	12.20	45.5		2.65	1.25	3.8	30.70	101.0	2.0	19.5	184.0	2.04	10
50	AS50	3.00		45.8		8.0	5.1	2.5	67.0	63.0	14.80	47.0		3.15	1.50	4.5	38.20	165.0	2.0	32.4	229.0	2.25	11
52	AS52	3.00		47.8		8.2	5.2	2.5	69.4	65.4	15.40	49.0		3.15	1.50	4.5	39.70	165.0	2.5	26.0	238.0	2.25	10
55	AS55	3.00		50.8		8.5	5.4	2.5	73.0	69.0	17.00	52.0		3.15	1.50	4.5	42.00	161.0	2.5	25.6	252.0	2.25	9
58	AS58	3.00	-0.08	53.8	+0.25 -0.50	8.8	5.6	2.5	76.6	72.6	19.40	55.0	-0.30	3.15	1.50	4.5	44.30	160.0	2.5	26.0	266.0	2.25	8
60	AS60	3.00		55.8		9.0	5.8	2.5	79.0	75.0	20.00	57.0		3.15	1.50	4.5	46.00	156.0	2.5	25.4	276.0	2.25	8
65	AS65	4.00		60.8		9.3	6.3	3.0	84.6	80.6	31.00	62.0		4.15	1.50	4.5	49.80	346.0	2.5	58.0	299.0	2.56	7
70	AS70	4.00		65.5		9.5	6.6	3.0	90.0	86.0	32.20	67.0		4.15	1.50	4.5	53.80	343.0	2.5	59.0	323.0	2.56	7
75	AS75	4.00		70.5		9.7	7.0	3.0	95.4	91.4	39.80	72.0		4.15	1.50	4.5	57.60	333.0	2.5	58.0	346.0	2.56	6

Part Number
 Tolerance
 Weight
 Ring
 Groove

Référence Teile Nummer Referencia de pieza Tolérance Toleranz Tolerancia Masse Gewicht Peso Anneau/Circlips Ring Anillo Gorge Nut Ranura



Circlips renforcés SD-Ringe (Sonderdicken) für Wellen Anillos reforzados RINGS FOR SHAFTS (HEAVY DUTY)

d ₁	D1460 AS														D A T A								
		s	Δ	d ₃	Δ	a max.	b ≈	d ₅ min.	C ₁	C ₂	 (kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	B	n _{det.} x1000 (rpm)
80	AS80	4.00	-0.10	74.5	+0.46	9.8	7.4	3.0	100.6	96.1	42.40	76.5	-0.30	4.15	1.75	5.3	71.60	328.0	3.0	50.0	430.0	2.56	6
85	AS85	4.00		79.5	∠ -1.10	10.0	7.8	3.5	106.0	101.5	47.00	81.5	-0.35	4.15	1.75	5.3	76.30	383.0	3.0	59.4	458.0	1.78	6
90	AS90	4.00		84.5	+0.54 -1.30	10.2	8.2	3.5	111.4	106.9	55.60	86.5		4.15	1.75	5.3	80.80	386.0	3.0	61.0	485.0	1.78	5
95	AS95	4.00		89.5		10.2	8.6	3.5	116.6	112.1	61.20	91.5		4.15	1.75	5.3	85.50	378.0	3.5	52.0	513.0	1.78	5
100	AS100	4.00		94.5		10.5	9.0	3.5	122.0	117.5	72.00	96.5		4.15	1.75	5.3	90.00	368.0	3.5	51.6	540.0	1.78	4

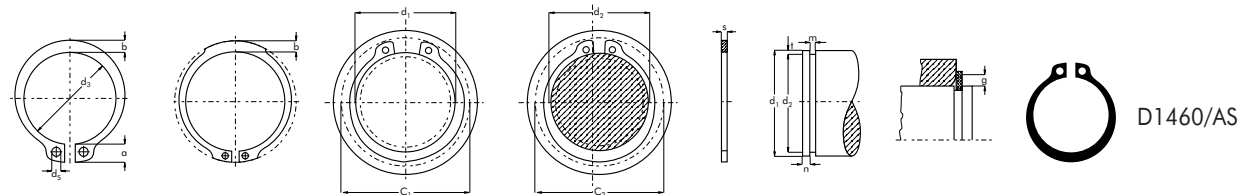
 **Part Number**
 Référence Teile Nummer Referencia de pieza

 **Tolerance**
 Tolérance Toleranz Tolerancia




 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



Circlips renforcés cote pouce SD-Ringe (Sonderdicken) für Wellen Zoll-Standard Anillos reforzados pulgadas standard RINGS FOR SHAFTS (HEAVY DUTY) INCH STANDARD

d ₁	N1460 NAS																	D A T A			
		s	Δ	d ₃	Δ	a max.	b ~	w ~	d ₅ min.	C ₁	C ₂	 (lbs/1000)	d ₂	Δ	m	Δ	n min.	T _c	T _g		
0.500	NAS50	0.050	±0.002	0.460	+0.005 -0.010	0.124	0.030	0.050	0.048	0.75	0.72	1.6	0.468	+0.001/-0.002	0.056	+0.004 -0.000	0.048	3500	450		
0.591	NAS59	0.050		0.543		0.134	0.104	0.057	0.048	0.86	0.83	2.2	0.555		0.056		0.054	4180	600		
0.625	NAS62	0.050		0.575		0.134	0.106	0.060	0.048	0.90	0.86	2.3	0.588		0.056		0.057	4420	670		
0.669	NAS66	0.050		0.616		0.134	0.114	0.062	0.048	0.94	0.90	2.6	0.629		0.056		0.060	4730	750		
0.750	NAS75	0.078		0.689		0.185	0.127	0.077	0.076	1.12	1.08	5.6	0.704		0.086		0.069	8270	975		
0.875	NAS87	0.078	±0.003	0.804	+0.010 -0.015	0.185	0.148	0.084	0.076	1.25	1.20	7.5	0.821	+0.001/-0.003	0.086	+0.005 -0.000	0.081	9650	1330		
0.984	NAS98	0.078		0.906		0.185	0.156	0.089	0.076	1.37	1.31	7.8	0.938		0.086		0.090	10800	1670		
1.000	NAS98	0.078		0.906		0.185	0.156	0.089	0.076	1.37	1.31	7.8	0.938		0.086		0.093	11000	1750		
1.062	NAS106	0.093		0.978		0.225	0.163	0.092	0.091	1.52	1.46	11.5	0.998		0.103		0.096	14000	1920		
1.125	NAS112	0.093		1.036		0.225	0.175	0.100	0.091	1.58	1.52	12.5	1.059		0.103		0.099	14800	2100		
1.181	NAS118	0.093	±0.004	1.037	+0.013 -0.020	0.225	0.176	0.098	0.091	1.64	1.57	13.5	1.111	+0.002 -0.004	0.103	+0.005 -0.000	0.105	15500	2340		
1.250	NAS125	0.093		1.150		0.225	0.185	0.103	0.091	1.70	1.63	14.9	1.174		0.103		0.114	16400	2690		
1.312	NAS131	0.093		1.208		0.225	0.196	0.110	0.091	1.77	1.69	16.0	1.234		0.103		0.117	17200	2890		
1.375	NAS137	0.093		1.268		0.225	0.200	0.110	0.091	1.83	1.75	17.8	1.291		0.103		0.126	18000	3260		
1.500	NAS150	0.109		1.380		0.285	0.205	0.105	0.107	2.08	1.98	27.0	1.406		0.120		0.141	19000	3990		
1.562	NAS156	0.109	±0.004	1.437	+0.013 -0.020	0.285	0.205	0.110	0.093	2.14	2.05	31.0	1.468	+0.003 -0.004	0.120	+0.005 -0.000	0.141	20000	4150		
1.750	NAS175	0.109		1.608		0.295	0.205	0.111	0.093	2.34	2.25	33.4	1.650		0.120		0.150	22500	4950		
1.938	NAS193	0.125		1.782		0.320	0.256	0.121	0.123	2.58	2.48	48.0	1.826		0.139		0.178	28500	6140		
2.000	NAS200	0.125		1.840		0.320	0.256	0.122	0.123	2.64	2.53	50.0	1.880		0.139		0.180	29500	6780		

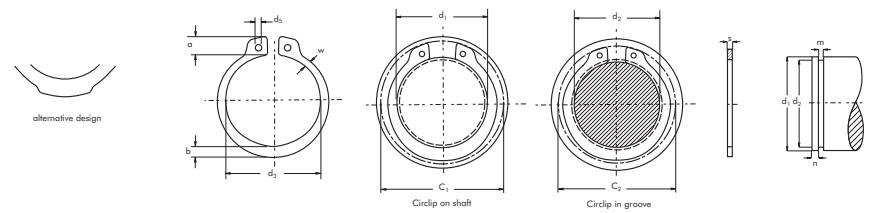
 **Part Number**
 Référence Teile Nummer Referencia de pieza

 **Tolerance**
 Tolérance Toleranz Tolerancia



 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

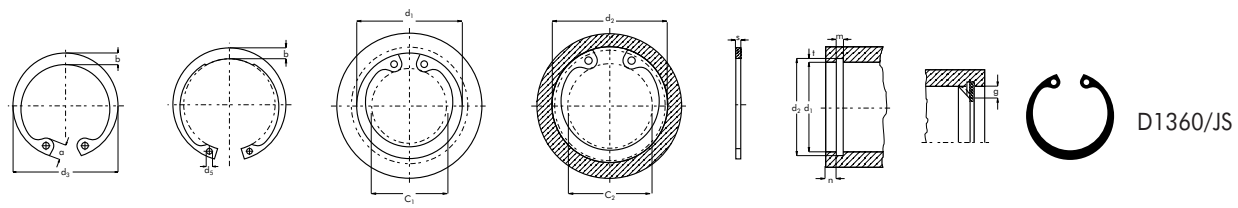
 **Groove**
 Gorge Nut Ranura



Circlips renforcés SD-Ringe (Sonderdicken) für Bohrungen Anillos reforzados RINGS FOR BORES (HEAVY DUTY)

d ₁	D1360 JS															D A T A						
		s	Δ	d ₃	Δ	a max.	b =	d _{5 min.}	C ₁	C ₂	(kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	AN (mm ²)	B
20	JS20	1.50		21.5		4.5	2.4	2.0	10.5	12.0	1.4	21.0		1.60	0.50	1.5	5.4	16.2	1.0	5.8	32	2.25
22	JS22	1.50		23.5		4.7	2.8	2.0	12.1	13.6	1.9	23.0	+0.15	1.60	0.50	1.5	5.9	18.0	1.0	6.1	35	2.25
24	JS24	1.50		25.9	+0.42	4.9	3.0	2.0	13.7	15.4	2.0	25.2		1.60	0.60	1.8	7.7	21.7	1.0	7.2	46	1.56
25	JS25	1.50		26.9	-0.21	5.0	3.1	2.0	14.5	16.2	2.1	26.2		1.60	0.60	1.8	8.0	22.8	1.0	7.3	48	1.56
26	JS26	1.50		27.9		5.1	3.1	2.0	15.3	17.0	2.3	27.2	+0.21	1.60	0.60	1.8	8.4	21.6	1.0	7.2	50	1.56
27	JS27	1.50	-0.06	29.1		5.1	3.2	2.0	16.3	18.2	2.4	28.4		1.60	0.70	2.1	10.1	20.8	1.0	7.0	60	1.56
28	JS28	1.50		30.1		5.3	3.2	2.0	16.9	18.8	2.5	29.4		1.60	0.70	2.1	10.5	20.8	1.0	7.0	63	1.56
30	JS30	1.50		32.1		5.5	3.3	2.0	18.4	20.4	2.7	31.4		1.60	0.70	2.1	11.3	21.4	1.0	7.2	67	1.56
32	JS32	1.50		34.4	+0.50	5.7	3.4	2.0	20.0	22.0	2.9	33.7		1.60	0.85	2.6	14.6	21.4	1.0	7.3	87	1.56
34	JS34	1.75		36.5	-0.25	5.9	3.7	2.5	21.6	23.9	4.1	35.7		1.85	0.85	2.6	15.4	35.6	1.5	8.6	92	1.36
35	JS35	1.75	-0.07	37.8		6.0	3.8	2.5	22.4	25.0	4.5	37.0		1.85	1.00	3.0	18.8	36.6	1.5	8.7	113	1.36
37	JS37	1.75		39.8		6.2	3.9	2.5	24.0	26.6	4.7	39.0	+0.25	1.85	1.00	3.0	19.8	36.8	1.5	8.8	119	1.36
38	JS38	1.75		40.8		6.3	3.9	2.5	24.8	27.4	4.8	40.0		1.85	1.00	3.0	22.5	38.3	1.5	9.1	123	1.36
40	JS40	2.00		43.5		6.5	3.9	2.5	26.4	29.5	5.1	42.5		2.15	1.25	3.8	27.0	58.4	2.0	10.9	162	1.31
42	JS42	2.00		45.5	+0.90 -0.39	6.7	4.1	2.5	28.0	31.1	5.6	44.5		2.15	1.25	3.8	28.4	58.5	2.0	11.0	170	1.31
45	JS45	2.00	-0.08	48.5		7.0	4.3	2.5	30.3	33.5	6.3	47.5		2.15	1.25	3.8	30.2	56.5	2.0	10.7	181	1.31
47	JS47	2.00		50.5		7.2	4.4	2.5	31.9	35.1	6.7	49.5		2.15	1.25	3.8	31.4	57.0	2.0	10.8	189	1.31
50	JS50	2.50		54.2		7.5	4.6	2.5	34.3	38.0	8.8	53.0		2.65	1.50	4.5	40.5	95.5	2.0	19.0	243	1.57
52	JS52	2.50		56.2		7.7	4.7	2.5	35.9	39.6	9.9	55.0		2.65	1.50	4.5	42.0	94.6	2.0	18.8	252	1.57
55	JS55	2.50		59.2		8.0	5.0	2.5	38.2	42.0	10.4	58.0		2.65	1.50	4.5	44.4	94.7	2.0	19.6	266	1.57
60	JS60	3.00	-0.10	64.2	+1.10	8.5	5.4	2.5	42.2	46.0	15.9	63.0		3.15	1.50	4.5	48.3	137.0	2.0	29.2	290	2.25
62	JS62	3.00		66.2	-0.46	8.6	5.5	2.5	44.0	47.8	16.1	65.0	+0.30	3.15	1.50	4.5	49.8	137.0	2.0	29.2	299	2.25
64	JS64	3.00		68.2		8.7	5.6	3.0	45.8	49.6	16.5	67.0		3.15	1.50	4.5	51.4	137.0	2.0	30.0	308	2.25
65	JS65	3.00		69.2		8.7	5.8	3.0	46.8	50.6	16.6	68.0		3.15	1.50	4.5	51.8	174.0	2.5	30.0	313	1.44
68	JS68	3.00		72.5		8.8	6.1	3.0	49.5	53.4	17.2	71.0		3.15	1.50	4.5	54.5	174.0	2.5	30.6	327	1.44
70	JS70	3.00	-0.08	74.5		9.0	6.2	3.0	51.1	55.0	18.0	73.0		3.15	1.50	4.5	56.2	171.0	2.5	30.3	337	1.44
72	JS72	3.00		76.5		9.2	6.4	3.0	53.7	56.9	21.7	75.0		3.15	1.50	4.5	58.0	172.0	2.5	30.3	346	1.44
75	JS75	3.00		79.5		9.3	6.6	3.0	55.5	59.4	22.6	78.0		3.15	1.50	4.5	60.0	170.0	2.5	30.3	360	1.44
80	JS80	4.00		85.5		9.5	7.0	3.0	60.0	64.5	33.2	83.5		4.15	1.75	5.3	74.6	308.0	2.5	56.0	448	2.56
85	JS85	4.00		90.5		9.7	7.2	3.5	64.7	69.1	33.8	88.5		4.15	1.75	5.3	79.5	358.0	3.0	55.0	477	1.78
90	JS90	4.00	-0.10	95.5	+1.30	10.0	7.6	3.5	69.0	73.5	41.3	93.5	+0.35	4.15	1.75	5.3	84.0	354.0	3.0	56.0	504	1.78
95	JS95	4.00		100.5	-0.54	10.3	8.1	3.5	73.4	77.9	46.7	98.5		4.15	1.75	5.3	88.6	347.0	3.0	56.0	532	1.78
100	JS100	4.00		105.5		10.5	8.4	3.5	77.9	82.5	50.7	103.5		4.15	1.75	5.3	93.1	335.0	3.0	55.0	559	1.78
105	JS105	5.00		112.0		10.7	8.7	4.0	82.5	87.6	70.0	109.0		5.15	2.00	6.0	112.0	681.0	3.0	114.0	672	1.56
110	JS110	5.00		117.0	-0.12	10.9	9.0	4.0	87.1	92.2	81.0	114.0	+0.54	5.15	2.00	6.0	117.0	648.0	3.0	111.0	704	1.56

 Part Number Référence Teile Nummer Referencia de pieza	 Tolerance Tolérance Toleranz Tolerancia	 Weight Masse Gewicht Peso	 Ring Anneau/Circlips Ring Anillo	 Groove Gorge Nut Ranura
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d ₂	DIN6799 D1500 RA	d ₁		U							H			D A T A						
		from	to	s	Δ	d ₄ max.	α	Δ	C ₂	⚖ (kg/1000)	d ₂	Δ	m min.	n	FN (kN)	d ₁	FR (kN)	g	FRg (kN)	n _{det.} x1000 (rpm)
1.2	RA1.2	1.4	2.0	0.30	±0.02	2.90	1.01	±0.04	3.0	0.009	1.2	-0.060	0.34	0.6	0.04	1.5	0.12	0.4	0.06	47
1.5	RA1.5	2.0	2.5	0.40		3.90	1.28		4.0	0.021	1.5		0.44	0.8	0.07	2.0	0.22	0.6	0.11	42
1.9	RA1.9	2.5	3.0	0.50		4.40	1.61		4.5	0.040	1.9		0.54	1.0	0.10	2.5	0.35	0.7	0.17	40
2.3	RA2.3	3.0	4.0	0.60		5.90	1.94		6.0	0.069	2.3		0.64	1.0	0.15	3.0	0.50	0.9	0.24	38
3.2	RA3.2	4.0	5.0	0.60		6.90	2.70		7.0	0.088	3.2		0.64	1.0	0.22	4.0	0.65	0.9	0.32	35
4.0	RA4.0	5.0	7.0	0.70	±0.03	8.85	3.34	±0.048	9.0	0.158	4.0	-0.075	0.74	1.2	0.25	5.0	0.95	1.0	0.47	32
5.0	RA5.0	6.0	8.0	0.70		10.85	4.11		11.0	0.236	5.0		0.74	1.2	0.90	7.0	1.15	1.0	0.60	28
6.0	RA6.0	7.0	9.0	0.70		11.80	5.26		12.0	0.255	6.0		0.74	1.2	1.10	8.0	1.35	1.1	0.70	25
7.0	RA7.0	8.0	11.0	0.90		13.80	5.84		14.0	0.474	7.0		0.94	1.5	1.25	9.0	1.80	1.3	1.00	22
8.0	RA8.0	9.0	12.0	1.00		15.75	6.52		16.0	0.660	8.0		1.05	1.8	1.42	10.0	2.50	1.5	1.25	20
9.0	RA9.0	10.0	14.0	1.10	±0.070	18.20	7.63	±0.070	18.5	1.000	9.0	-0.110	1.15	2.0	1.60	11.0	3.00	1.6	1.50	17
10.0	RA10.0	11.0	15.0	1.20		19.70	8.32		20.0	1.120	10.0		1.25	2.0	1.70	12.0	3.50	1.8	1.75	15
12.0	RA12.0	13.0	18.0	1.30		22.70	10.45		23.0	1.770	12.0		1.35	2.5	3.10	15.0	4.70	1.9	2.30	13
15.0	RA15.0	16.0	24.0	1.50		28.70	12.61		29.0	3.370	15.0		1.55	3.0	7.00	20.0	7.80	2.2	3.30	11
19.0	RA19.0	20.0	31.0	1.75		36.50	15.92		37.0	6.420	19.0		1.80	3.5	10.00	25.0	11.00	2.5	3.60	8
24.0	RA24.0	25.0	38.0	2.00	43.50	21.88	44.0	8.550	24.0	2.05	4.0	13.00	30.0	15.00	3.0	4.00	6			

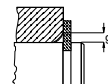
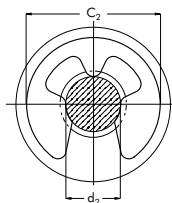
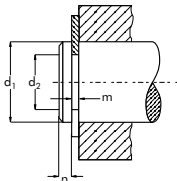
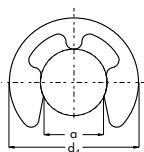
Part Number
Référence Teile Nummer Referencia de pieza

Tolerance
Tolérance Toleranz Tolerancia

Weight
Masse Gewicht Peso

Ring
Anneau/Circlips Ring Anillo

Groove
Gorge Nut Ranura





DIN 6799/D1500/RA



CIRTEQ

Colliers d'épaulement cote pouce Sicherungsscheiben Zoll-Standard Anillos de retención pulgadas standard E CLIPS INCH STANDARD

d ₁	N1500 NRA NRF NRG										D A T A			
		s	Δ	d ₃	C ₂	(lbs/1000)	d ₂	Δ	m	Δ	Tc	Tg	Applicator	Dispenser
0.062	NRF006	0.010	±0.001	0.140	0.150	0.028	0.052	+0.002 -0.000	0.012	+0.002 -0.000	36	6	AM2	SF2
0.062	NRA006	0.010		0.156	0.165	0.030	0.052		0.012		36	6	AM3	SF3
0.062	NRG006	0.020		0.187	0.200	0.094	0.052		0.023		72	6	-	-
0.094	NRF009	0.015		0.230	0.245	0.100	0.074		0.018		81	17	AM7	SF4
0.094	NRA009	0.015	±0.002	0.187	0.200	0.058	0.074	+0.002 -0.000	0.018	+0.003 -0.000	81	17	AM5	SF5
0.110	NRF011	0.015		0.375	0.390	0.310	0.079		0.018		95	32	AM6	SF6
0.125	NRA012	0.015		0.230	0.240	0.087	0.095		0.018		108	35	AM7	SF7
0.140	NRF014	0.015		0.203	0.214	0.060	0.102		0.018		121	50	AM8	SF8
0.140	NRG014	0.015		0.250	0.265	0.100	0.110		0.018		121	39	AM10	SF10
0.140	NRA014	0.025		0.270	0.285	0.210	0.105		0.029		202	46	AM9	SF9
0.156	NRA015	0.025	0.282	0.295	0.210	0.116	0.029	225	58	AM11	SF11			
0.172	NRF017	0.025	0.312	0.325	0.240	0.127	0.029	248	72	AM12	SF12			
0.188	NRF018	0.025	0.375	0.390	0.450	0.125	0.029	271	110	AM13	SF13			
0.188	NRA018	0.025	0.335	0.350	0.290	0.147	0.029	271	72	AM14	SF14			
0.219	NRF021	0.025	±0.002	0.437	0.450	0.470	0.188	+0.003 -0.000	0.029	+0.003 -0.000	316	63	AM15	SF15
0.250	NRA025	0.025		0.527	0.540	0.760	0.210		0.029		361	93	AM16	SF16
0.312	NRF031	0.025		0.500	0.520	0.570	0.250		0.029		450	180	AM16	SF17
0.375	NRA037	0.035		0.660	0.680	1.500	0.303		0.039		757	252	AM18	SF18
0.438	NRA043	0.035		0.687	0.710	1.500	0.343		0.039		885	388	AM19	SF19
0.438	NRF043	0.035		0.600	0.620	1.000	0.380		0.039		884	237	AM20	SF20
0.500	NRA050	0.042	0.800	0.820	2.500	0.396	0.046	1210	485	AM21	SF21			
0.625	NRA062	0.042	0.940	0.960	3.200	0.485	0.046	1510	816	AM22	SF22			
0.744	NRF074	0.050	1.000	1.020	4.300	0.625	0.056	2160	1190	AM23	SF23			
0.750	NRA075	0.050	1.120	1.140	5.800	0.580	0.056	2520	1630	AM24	SF24			
0.875	NRA087	0.050	±0.001	1.300	1.320	7.600	0.675	+0.005 -0.000	0.056	+0.004 -0.000	2840	1370	AM25	SF25
0.984	NRF098	0.050		1.500	1.530	9.200	0.835		0.056		4250	1210	AM26	SF26
1.188	NRF188	0.062		1.626	1.670	11.300	1.079		0.068		4920	1860	AM27	SF27
1.375	NRF137	0.062		1.875	1.920	15.400	1.230		0.068		4920	1860	-	-

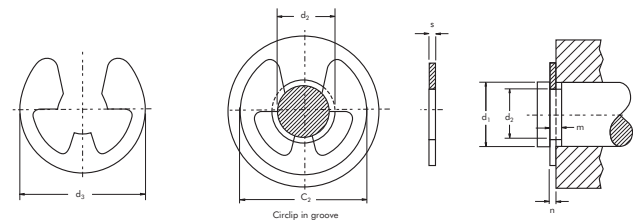
 **Part Number**
 Référence Teile Nummer Referencia de pieza

 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso




 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



 N1500/NRA/NRF/NRG



d ₁	9133 NRL												D A T A				
		s	Δ	d ₃	Δ	d ₄	C ₂	 (kg/1000)	d ₂	Δ	m	min					
2	NRL2	0.25	+0.00 -0.03	1.51		4.70	4.75	0.02	1.56	+0.05 -0.00	0.30						
2.5	NRL2.5	0.40		1.99		5.30	5.37	0.04	2.06		0.45						
3	NRL3	0.40		2.23		6.00	6.07	0.05	2.30		0.45						
4	NRL4	0.60		2.89		7.15	7.37	0.10	3.10		0.67						
4.5	NRL4.5	0.60		3.50		8.00	8.10	0.13	3.60		0.67						
5	NRL5	0.60	+0.00 -0.05	3.68		8.50	8.62	0.14	3.80	+0.07 -0.00	0.67						
6	NRL6	0.60		4.70		11.10	11.19	0.18	4.80		0.67						
7	NRL7	0.60		5.25		13.40	13.54	0.20	5.40		0.67						
8	NRL8	0.60		6.17		12.70	12.93	0.24	6.40		0.67						
9	NRL9	0.80		6.85		13.80	13.95	0.39	7.00		0.90						
10	NRL10	0.80	+0.00 -0.06	7.85		15.00	15.15	0.45	8.00	+0.12 -0.00	0.90						
11	NRL11	0.80		8.45		16.40	16.55	0.56	8.60		0.90						
12	NRL12	0.80		9.45		17.70	17.85	0.58	9.60		0.90						
13	NRL13	1.00		10.10		19.00	20.61	0.82	10.24		1.10						
14	NRL14	1.00		11.10		20.40	20.54	0.95	11.24		1.10						
15	NRL15	1.00	+0.00 -0.06	11.90		21.60	21.74	1.04	12.04	+0.12 -0.00	1.10						
16	NRL16	1.00		12.90		23.00	23.14	1.11	13.04		1.10						
17	NRL17	1.00		13.65		24.30	24.49	1.29	13.84		1.10						
18	NRL18	1.00		14.65		25.60	25.79	1.47	14.84		1.10						
19	NRL19	1.20		15.51		26.80	26.99	1.76	15.70		1.35						
20	NRL20	1.20	+0.00 -0.06	16.48		28.20	28.42	2.12	16.70	+0.12 -0.00	1.35						
22	NRL22	1.20		18.32		30.80	31.02	2.30	18.54		1.35						
25	NRL25	1.20		21.10		34.80	38.63	2.71	21.40		1.35						
30	NRL30	1.50		25.85		41.20	41.55		26.20		1.65						
35	NRL35	1.50		30.60		47.60	47.81		31.00		1.65						

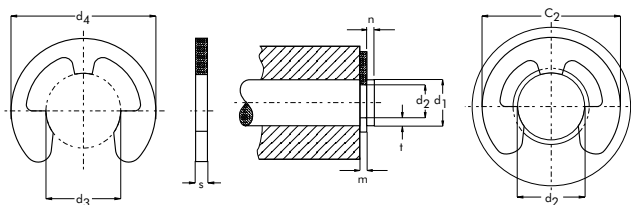
 **Part Number**
Référence Teile Nummer Referencia de pieza

 **Tolerance**
Tolérance Toleranz Tolerancia

 **Weight**
Masse Gewicht Peso

 **Ring**
Anneau/Circlips Ring Anillo

 **Groove**
Gorge Nut Ranura

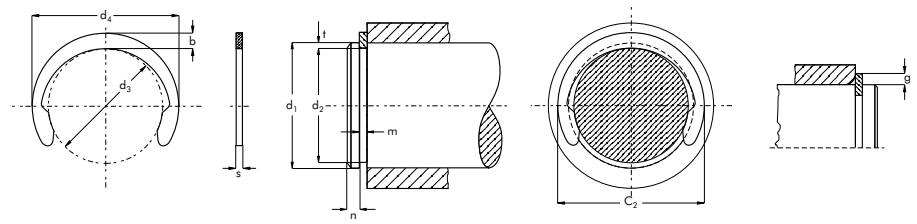



9133/NRL

**CIRTEQ**

d ₁	M1800 H	C								H				D A T A					
		s	Δ	d ₃	Δ	b	d ₄	C ₂	(kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	n _{det.} x1000 (rpm)
3	H3	0.40	-0.05	2.18	±0.06	0.90	3.98	4.1	0.02	2.3	-0.07	0.44	0.35	1.0	0.24	0.50	0.40	0.40	95
4	H4	0.40		3.00	1.00	5.00	5.2	0.04	3.2	0.44		0.40	1.2	0.37	0.50	0.40	0.40	90	
5	H5	0.60		3.80	1.20	6.20	6.4	0.08	4.0	0.64		0.50	1.5	0.58	1.10	0.60	0.70	88	
6	H6	0.70		4.80	1.30	7.40	7.6	0.11	5.0	0.74		0.50	1.5	0.72	1.65	0.70	1.10	80	
6.5	H6.5	0.70		5.60	1.30	8.20	8.4	0.12	5.8	0.74		0.35	1.0	0.55	1.70	0.70	1.05	76	
7	H7	0.80	±0.09	5.80	1.40	8.60	8.8	0.13	6.0	-0.09	0.85	0.50	1.5	0.85	2.20	0.80	1.30	69	
8	H8	0.80		6.80	1.60	10.00	10.2	0.17	7.0		0.85	0.50	1.5	0.98	2.20	0.80	1.30	67	
9	H9	1.00		7.80	1.70	11.20	11.4	0.22	8.0		1.10	0.50	1.5	1.10	3.50	1.00	2.00	58	
10	H10	1.00		8.75	1.70	12.15	12.4	0.26	9.0		1.10	0.50	1.5	1.24	3.70	1.00	2.00	50	
11	H11	1.00		9.65	1.80	13.20	13.6	0.29	10.0		1.10	0.50	1.5	1.35	4.00	1.00	2.00	40	
12	H12	1.00	±0.18	10.55	1.90	14.35	14.7	0.32	10.9	-0.11	1.10	0.55	1.7	1.65	4.20	1.00	2.00	35	
13	H13	1.00		11.40	2.00	15.40	15.8	0.36	11.8		1.10	0.60	1.8	1.90	4.50	1.00	2.00	30	
14	H14	1.00		12.30	2.00	16.30	16.7	0.40	12.7		1.10	0.65	2.0	2.20	5.00	1.00	2.00	27	
15	H15	1.00		13.20	2.10	17.40	17.8	0.46	13.6		1.10	0.70	2.1	2.60	5.50	1.00	2.00	25	
16	H16	1.00		14.10	2.20	18.50	18.9	0.54	14.5		1.10	0.75	2.3	3.00	5.80	1.00	2.00	24	
17	H17	1.00	-0.06	14.90	2.25	19.40	19.9	0.64	15.4	-0.21	1.10	0.80	2.4	3.40	6.00	1.00	2.00	23	
18	H18	1.20		15.80	2.30	20.40	20.9	0.72	16.3		1.30	0.85	2.6	3.70	8.50	1.20	2.80	21	
19	H19	1.20		16.70	2.40	21.50	22.0	0.80	17.2		1.30	0.90	2.7	4.30	9.00	1.20	2.80	21	
20	H20	1.20		17.55	2.55	22.65	23.2	0.87	18.1		1.30	0.95	2.9	4.70	9.40	1.20	3.00	20	
22	H22	1.20		19.40	2.80	25.00	25.5	1.10	19.9		1.30	1.05	3.2	5.70	1.00	1.20	3.00	17	
23	H23	1.20	±0.21	20.20	2.90	26.00	26.6	1.15	20.8	-0.21	1.30	1.10	3.3	6.20	10.50	1.20	3.20	15	
24	H24	1.20		21.10	3.00	27.10	27.7	1.52	21.7		1.30	1.15	3.5	6.80	11.00	1.20	3.20	15	
25	H25	1.20		22.00	3.15	28.30	28.9	1.74	22.6		1.30	1.20	3.6	7.50	11.50	1.20	3.20	15	
26	H26	1.20		22.90	3.25	29.40	30.0	1.88	23.5		1.30	1.25	3.8	8.00	12.00	1.20	3.20	15	
28	H28	1.50		24.60	3.50	31.60	32.2	2.32	25.2		1.60	1.40	4.2	9.70	16.50	1.50	5.50	13	
30	H30	1.50	±0.25	26.30	3.70	33.70	34.4	2.43	27.0	-0.25	1.60	1.50	4.5	11.00	17.00	1.50	5.60	13	
32	H32	1.50		28.10	4.00	36.10	36.8	3.02	28.8		1.60	1.60	4.6	12.50	18.00	1.50	5.80	13	
35	H35	1.50		30.80	4.30	39.40	40.1	3.30	31.5		1.60	1.75	5.3	15.00	20.00	1.50	5.80	11	
36	H36	1.75		31.70	4.40	40.50	41.2	4.40	32.4		1.85	1.80	5.4	16.00	25.00	1.75	8.30	10	
38	H38	1.75		33.40	4.60	42.60	43.4	4.62	34.2		1.85	1.90	5.7	17.50	26.00	1.75	8.50	10	
40	H40	1.75	±0.39	35.20	4.90	45.00	45.8	5.05	36.0	-0.25	1.85	2.00	6.0	20.00	27.50	1.75	8.80	9	
42	H42	1.75		37.00	5.10	47.20	48.0	5.46	37.8		1.85	2.10	6.3	21.50	28.00	1.75	8.90	9	
45	H45	1.75		39.60	5.50	50.60	51.5	5.98	40.5		1.85	2.25	6.8	25.00	30.00	1.75	9.00	8	
48	H48	1.75		42.30	5.90	54.10	55.0	7.82	43.2		1.85	2.40	7.2	28.00	32.00	1.75	9.00	8	
50	H50	2.00		44.00	6.20	56.40	57.4	8.85	45.0		2.15	2.50	7.5	31.00	39.50	2.00	12.00	7	
52	H52	2.00	-0.07	46.00	6.30	58.60	59.6	9.33	47.0	-0.07	2.15	2.50	7.5	32.00	41.00	2.00	12.00	7	
55	H55	2.00		48.50	6.50	61.50	63.0	10.40	50.0		2.15	2.50	7.5	34.00	43.00	2.00	12.00	7	

Part Number
Référence Teile Nummer Referencia de pieza
Tolerance
Tolérance Toleranz Tolerancia
Weight
Masse Gewicht Peso
Ring
Anneau/Circlips Ring Anillo
Groove
Gorge Nut Ranura



d ₁	N1800 NH	C						H				D A T A			
		Δ	d ₃	s	Δ	C ₂	 (lbs/1000)	d ₂	Δ	m	Δ	T _c	T _g	Applicators	Dispensors
0.125	NH012	+.003 -.000	0.165	0.015	±0.002	0.18	0.030	0.106	±0.015	0.018	+.002 -.000	123	34	AM50	SF50
0.156	NH015		0.205	0.015		0.22	0.052	0.135		0.018		153	46	AM8	SF51
0.188	NH018		0.244	0.015		0.25	0.062	0.165		0.018		185	61	AM10	SF52
0.219	NH021		0.275	0.025		0.29	0.120	0.193		0.029		359	80	AM53	SF53
0.236	NH023		0.295	0.025		0.31	0.150	0.208		0.029		387	93	AM54	SF54
0.250	NH025	+.004 -.000	0.311	0.025	±0.002	0.33	0.157	0.220	±0.002	0.029	+.003 -.000	410	106	AM12	SF55
0.281	NH028		0.346	0.025		0.36	0.190	0.247		0.029		461	135	AM56	SF56
0.312	NH031		0.376	0.025		0.39	0.226	0.276		0.029		511	159	AM13	SF57
0.375	NH037		0.448	0.025		0.47	0.300	0.335		0.029		615	212	AM58	SF58
0.406	NH040		0.486	0.025		0.50	0.352	0.364		0.029		665	241	AM59	SF59
0.438	NH043	+.006 -.000	0.517	0.025	±0.003	0.53	0.359	0.393	±0.003	0.029	+.004 -.000	718	279	AM16	SF60
0.500	NH050		0.581	0.035		0.60	0.671	0.450		0.039		1150	353	AM61	SF61
0.562	NH056		0.653	0.035		0.67	0.710	0.507		0.039		1290	437	AM18	SF62
0.625	NH062		0.715	0.035		0.74	0.937	0.563		0.039		1430	548	AM38	SF63
0.688	NH068		0.784	0.042		0.80	1.300	0.619		0.046		1890	671	AM64	SF64
0.750	NH075	+.006 -.000	0.845	0.042	±0.003	0.87	1.500	0.676	±0.003	0.046	+.004 -.000	2070	785	AM40	SF65
0.812	NH081		0.915	0.042		0.94	1.700	0.732		0.046		2240	918	AM66	SF66
0.875	NH087		0.991	0.042		1.01	2.000	0.789		0.046		2410	1060	AM67	SF67
0.938	NH093		1.058	0.042		1.08	2.300	0.843		0.046		2580	1260	AM68	SF68
1.000	NH100		1.130	0.042		1.15	2.700	0.900		0.046		2750	1410	AM69	SF69
1.125	NH112	+.008 -.000	1.267	0.050	±0.004	1.30	4.000	1.013	±0.004	0.056	+.004 -.000	3690	1780		
1.188	NH118		1.321	0.050		1.35	5.950	1.047		0.056		3890	2370		
1.250	NH125		1.415	0.050		1.44	5.100	1.126		0.056		4100	2190		
1.375	NH137		1.555	0.050		1.58	6.100	1.237		0.056		4510	2680		
1.500	NH150	+.010 -.000	1.691	0.050	±0.003	1.72	7.600	1.350	±0.005	0.056	+.004 -.000	4920	3180		
1.750	NH175		1.975	0.062		2.01	12.900	1.576		0.068		7110	4300		
2.000	NH200		2.257	0.062		2.30	16.200	1.800		0.068		8130	5650		

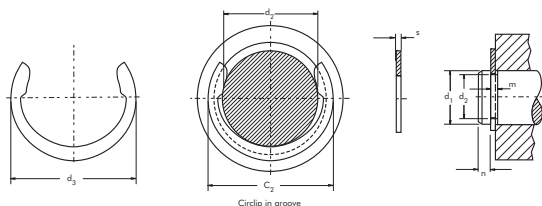
Part Number
Référence Teile Nummer Referencia de pieza

Tolerance
Tolérance Toleranz Tolerancia




Weight
Masse Gewicht Peso

Ring
Anneau/Circlips Ring Anillo

Groove
Gorge Nut Ranura



Colliers d'épaulement cote pouce Sicherungsscheiben Zoll-Standard Anillos de retencion pulgadas standard KLIPRING INCH STANDARD

d ₁	N1504 NKP														D A T A	
		s	Δ	d ₃	Δ	D	C ₂	b ≈	 (lbs/1000)	d ₂	Δ	m	Δ	n min.	T _c	T _g
0.156	NKP015	0.035	±.002	0.11	±.003	0.320	0.39	0.042	0.42	0.120	±.004	0.039	+.006 -.000	0.036	428	79
0.188	NKP018	0.035		0.140		0.400	0.42	0.048	0.63	0.148	±.005	0.039		0.040	517	106
0.250	NKP025	0.035		0.188		0.482	0.52	0.056	0.84	0.210	±.006	0.039		0.040	687	141
0.312	NKP031	0.042		0.250		0.588	0.63	0.074	1.46	0.272	±.006	0.046		0.040	1030	176
0.375	NKP037	0.042		0.312		0.680	0.72	0.081	1.92	0.331	±.006	0.046		0.044	1240	233
0.438	NKP043	0.050		0.375	0.752	0.79	0.081	2.66	0.390	±.008	0.056	0.048		1720	297	
0.500	NKP050	0.050		0.406	0.826	0.89	0.097	3.30	0.440		±.008	0.056		0.060	1960	424
0.625	NKP062	0.050		0.500	0.966	1.03	0.086	4.65	0.531		±.008	0.056		0.094	2450	830
0.750	NKP075	0.062		0.564	1.095	1.17	0.095	7.48	0.632		±.010	0.068		0.118	3650	1250
1.000	NKP100	0.078		0.812	1.415	1.51	0.115	13.80	0.860			±.010		0.086	0.140	6130
1.250	NKP125	0.093	±.003	1.032	±.006	1.800	1.90	0.180	29.00	1.090	±.015	0.103	0.160	9130	2830	
1.500	NKP150	0.109		1.250		2.050	2.18	0.208	37.10	1.317		0.120	0.182	12840	3880	
1.750	NKP175	0.125		1.406		2.300	2.45	0.235	58.60	1.480		0.139	0.270	17180	6680	
2.000	NKP200	0.125		1.625		±.010	2.650	2.83	0.250	59.20		1.730	0.139	0.270	19640	7630
						±.015	2.650	2.83	0.250	59.20		1.730	0.139	0.270	19640	7630

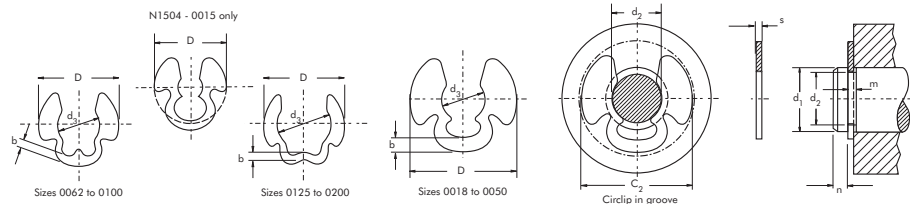
 **Part Number**
 Référence Teile Nummer Referencia de pieza




 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



d ₁	N1540 NRH												D A T A				
		s	Δ	d ₃	Δ	C ₂	b ≈	 (lbs/1000)	d ₂	Δ	m	Δ	T _c	T _g	Applicators	Dispensors	
0.094	NRH009	0.015	±.002	0.206		0.219		0.07	0.074	±.002	0.018	+.002 -.000	80	17	AM8	SF30	
0.125	NRH012	0.015		0.270		0.283		0.13	0.095		+.002		0.018	110	35	AM31	SF31
0.156	NRH015	0.025		0.335		0.350		0.31	0.116		-.000		0.029	220	58	AM14	SF32
0.188	NRH018	0.025		0.375		0.390		0.39	0.147				0.029	270	72	AM33	SF33
0.219	NRH021	0.025		0.446		0.460		0.54	0.188				0.029	320	63	AM15	SF34
0.250	NRH025	0.025		0.516		0.530		0.71	0.210				0.029	360	93	AM16	SF35
0.312	NRH031	0.025	0.588	0.610	0.85	0.250	±.003	0.029	630	180	AM20	SF36					
0.375	NRH037	0.035	0.660	0.680	1.50	0.303		0.039	760	250	AM18	SF37					
0.438	NRH043	0.035	0.746	0.777	1.90	0.343		0.039	880	390	AM38	SF38					
0.500	NRH050	0.042	0.810	0.830	3.20	0.396		0.046	1210	480	AM21	SF39					
0.562	NRH056	0.042	0.870	0.890	3.50	0.437		0.046	1360	650	AM40	SF40					

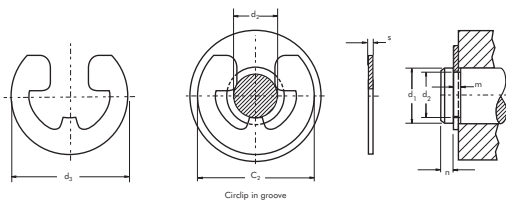
Part Number
Référence Teile Nummer Referencia de pieza

Tolerance
Tolérance Toleranz Tolerancia

Weight
Masse Gewicht Peso

Ring
Anneau/Circlips Ring Anillo

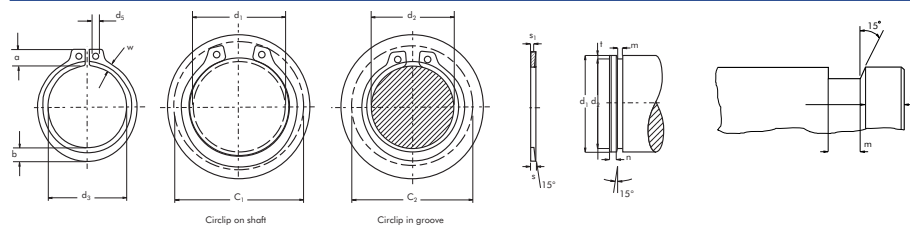
Groove
Gorge Nut Ranura






Anneaux chanfreinés cote pouce Keilringe für Wellen Zoll-Standard Anillos chafanados pulgadas standard BEVELLED RINGS FOR SHAFTS INCH STANDARD

d ₁	N1402 NAB	⊙												H				D A T A			
		s	Δ	S ₁	Δ	d ₃	Δ	a max.	b ≈	w ~	d ₅ min.	C ₁	C ₂	(lbs/1000)	d ₂	Δ	m	Δ	n min.	Tc	Tg
1.000	NAB100	0.042	±0.002	0.034		0.925	+0.005/-0.010	0.171	0.116	0.065	0.076	1.36	1.31	3.60	0.930	+0.000/-0.003	0.037		0.052	5940	990
1.023	NAB102	0.042		0.033		0.946		0.172	0.118	0.066	0.076	1.38	1.34	3.90	0.951		0.036		0.054	6070	1040
1.062	NAB106	0.050		0.041		0.982		0.185	0.122	0.069	0.076	1.45	1.40	4.80	0.992		0.044		0.052	7500	1050
1.125	NAB112	0.050		0.041		1.041		0.186	0.128	0.071	0.076	1.51	1.47	5.10	1.051		0.044		0.055	7950	1180
1.188	NAB118	0.050		0.041		1.098		0.186	0.132	0.072	0.076	1.58	1.53	5.60	1.108		0.044		0.060	8400	1340
1.250	NAB125	0.050	±0.001	0.040		1.156	+0.010 -0.015	0.187	0.140	0.076	0.076	1.64	1.59	5.90	1.166	+0.000 -0.004	0.043		0.063	8840	1480
1.312	NAB131	0.050		0.039		1.214		0.187	0.146	0.077	0.076	1.70	1.65	6.80	1.224		0.042		0.066	9270	1650
1.375	NAB137	0.050		0.039		1.272		0.188	0.152	0.082	0.076	1.77	1.71	7.20	1.282		0.042		0.069	9720	1790
1.438	NAB143	0.050		0.039		1.333		0.188	0.160	0.086	0.076	1.83	1.77	8.10	1.343		0.042		0.070	10160	1910
1.500	NAB150	0.050		0.038		1.387		0.218	0.168	0.091	0.118	1.96	1.89	9.00	1.397		0.041		0.076	10600	2160
1.562	NAB156	0.062		0.049		1.446	+0.013 -0.020	0.239	0.172	0.093	0.123	2.06	1.99	12.40	1.459	+0.000 -0.005	0.053		0.076	11400	2250
1.625	NAB162	0.062		0.049		1.503		0.239	0.180	0.097	0.123	2.12	2.05	13.20	1.516		0.053		0.081	11870	2480
1.688	NAB168	0.062		0.048		1.560		0.239	0.184	0.098	0.123	2.19	2.11	14.80	1.573		0.052		0.085	12330	2720
1.750	NAB175	0.062		0.048		1.618		0.241	0.188	0.101	0.123	2.25	2.18	15.30	1.631		0.052		0.088	12780	2920
1.772	NAB177	0.062		0.048		1.637		0.241	0.190	0.102	0.123	2.28	2.20	15.40	1.650		0.052		0.090	12940	3060
1.812	NAB181	0.062		0.048		1.675		0.242	0.192	0.102	0.123	2.32	2.24	16.20	1.688		0.052		0.093	13240	3180
1.875	NAB187	0.062		0.048		1.735		0.243	0.196	0.104	0.123	2.38	2.30	17.30	1.748		0.052		0.094	13700	3340
1.969	NAB196	0.062		0.047		1.819		0.249	0.200	0.106	0.123	2.49	2.40	18.00	1.832		0.051		0.102	14380	3785
2.000	NAB200	0.062		0.047		1.850		0.243	0.204	0.108	0.123	2.71	2.42	19.00	1.863		0.051		0.102	14600	3845
2.062	NAB206	0.078		0.062		1.906		0.271	0.208	0.111	0.123	2.63	2.54	25.00	1.921		0.067		0.105	18950	4080
2.125	NAB212	0.078	±0.003	0.062		1.964	+0.015 -0.025	0.271	0.212	0.113	0.123	2.69	2.60	26.10	1.979		0.067		0.109	19530	4390
2.156	NAB215	0.078		0.062		1.993		0.271	0.212	0.113	0.123	2.72	2.63	26.30	2.008		0.067		0.111	19810	4510
2.250	NAB225	0.078		0.061		2.081		0.272	0.220	0.116	0.123	2.82	2.72	27.70	2.096		0.066		0.115	20680	4900
2.312	NAB231	0.078		0.060		2.139		0.272	0.222	0.118	0.123	2.88	2.78	28.80	2.154		0.065		0.118	21250	5160
2.375	NAB237	0.078		0.060		2.197		0.272	0.224	0.119	0.123	2.95	2.84	29.20	2.212		0.065		0.121	21820	5440
2.438	NAB243	0.078		0.060		2.255		0.273	0.228	0.120	0.123	3.01	2.91	29.50	2.270	+0.000 -0.006	0.065		0.126	22400	5790
2.500	NAB250	0.078		0.059		2.313		0.273	0.232	0.122	0.123	3.08	2.97	29.70	2.328		0.064		0.129	22970	6080
2.559	NAB255	0.078		0.059		2.377		0.273	0.238	0.125	0.123	3.14	3.03	33.90	2.397		0.064		0.121	23520	5860
2.625	NAB262	0.078		0.059		2.428		0.273	0.242	0.127	0.123	3.20	3.09	35.00	2.448		0.064		0.132	24120	6530
2.688	NAB268	0.078		0.059		2.485		0.273	0.246	0.129	0.123	3.27	3.15	36.00	2.505		0.064		0.136	24700	6920
2.750	NAB275	0.093	±0.002	0.073		2.543	+0.020 -0.030	0.315	0.248	0.131	0.123	3.41	3.29	47.00	2.563		0.079		0.139	30130	7230
2.875	NAB287	0.093		0.072		2.659		0.313	0.256	0.133	0.123	3.53	3.41	48.50	2.679		0.078		0.147	31500	7970
2.938	NAB293	0.093		0.072		2.717		0.313	0.260	0.136	0.123	3.60	3.47	50.00	2.737		0.078		0.150	32190	8310
3.000	NAB300	0.093		0.071		2.775		0.313	0.264	0.138	0.123	3.66	3.53	52.00	2.795		0.077		0.153	32870	8650
3.062	NAB306	0.093		0.071		2.832		0.303	0.252	0.131	0.123	3.70	3.57	57.00	2.852		0.077		0.157	33550	9090

Part Number
Référence Teile Nummer Referencia de pieza
Tolerance
Tolérance Toleranz Tolerancia
Weight
Masse Gewicht Peso
Ring
Anneau/Circlips Ring Anillo
Groove
Gorge Nut Ranura



Anneaux chanfreinés cote pouce Keilring für Wellen Zoll-Standard Anillos chaflanados pulgadas standard BEVELLED RINGS FOR SHAFTS INCH STANDARD

d ₁	N1402 NAB																D A T A				
		s	Δ	S ₁	Δ	d ₃	Δ	a max.	b ≈	w ~	d ₅ min.	C ₁	C ₂	 (lbs/1000)	d ₂	Δ	m	Δ	n min.	T _c	T _g
3.125	NAB312	0.093		0.070		2.892		0.313	0.272	0.141	0.123	3.82	3.73	58.0	2.912		0.076		0.159	34300	11700
3.156	NAB315	0.093		0.070		2.920		0.313	0.274	0.143	0.123	3.85	3.75	59.0	2.940		0.076		0.162	34600	11900
3.250	NAB325	0.093		0.070	± .002	3.006		0.313	0.280	0.145	0.123	3.95	3.85	62.0	3.026		0.076	+ .0015 - .000	0.168	35600	12700
3.346	NAB334	0.093		0.069		3.092		0.313	0.286	0.147	0.123	4.04	3.94	64.0	3.112		0.075		0.175	36700	13600
3.438	NAB343	0.093		0.069		3.179		0.313	0.292	0.148	0.123	4.14	4.03	66.0	3.199		0.075		0.178	37700	14300
3.500	NAB350	0.109		0.084		3.237		0.333	0.285	0.148	0.123	4.25	4.14	72.0	3.257		0.091		0.181	44900	14800
3.543	NAB354	0.109		0.084		3.277		0.333	0.288	0.149	0.123	4.29	4.18	73.0	3.297		0.091		0.184	45500	15200
3.625	NAB362	0.109		0.083		3.352		0.333	0.296	0.153	0.123	4.37	4.25	76.0	3.372	+ .000 - .006	0.090		0.188	46600	16300
3.688	NAB368	0.109	± 0.003	0.083		3.410		0.335	0.302	0.156	0.123	4.43	4.31	80.0	3.430		0.090		0.193	47300	16500
3.750	NAB375	0.109		0.082		3.468	+ .020 - .030	0.337	0.310	0.160	0.123	4.50	4.38	83.0	3.488		0.089		0.196	48100	17200
3.875	NAB387	0.109		0.082		3.584		0.335	0.318	0.163	0.123	4.60	4.47	88.0	3.604		0.089		0.202	49700	18300
3.938	NAB393	0.109		0.081	± .0025	3.642		0.347	0.318	0.163	0.123	4.70	4.57	95.0	3.662		0.088		0.207	50600	19000
4.000	NAB400	0.109		0.081		3.700		0.357	0.318	0.163	0.123	4.78	4.65	101.0	3.720		0.088		0.210	51400	19600
4.250	NAB425	0.109		0.087		3.989		0.403	0.318	0.176	0.123	5.09	4.98	112.0	4.009		0.094	+ .002 - .000	0.180	54600	18000
4.375	NAB437	0.109		0.087		4.106		0.403	0.318	0.181	0.123	5.22	5.10	115.0	4.126		0.094		0.186	56200	19000
4.500	NAB450	0.109		0.087		4.223		0.412	0.285	0.128	0.123	5.37	5.25	101.0	4.243		0.094		0.192	57800	20200
4.750	NAB475	0.109		0.085		4.458		0.437	0.303	0.136	0.123	5.67	5.54	113.0	4.478		0.092		0.204	61000	22700
5.000	NAB500	0.109		0.084		4.692		0.458	0.360	0.194	0.151	5.96	5.83	149.0	4.712		0.091		0.216	64200	25400
5.250	NAB525	0.125		0.098		4.927		0.480	0.372	0.211	0.151	6.27	6.12	190.0	4.947		0.105		0.226	77300	29000
5.500	NAB550	0.125	± 0.004	0.097		5.162	+ .020 - .040	0.505	0.390	0.209	0.151	6.57	6.42	201.0	5.182	+ .000 - .007	0.104		0.238	81000	30800
5.750	NAB575	0.125		0.096		5.396		0.526	0.408	0.220	0.151	6.86	6.70	199.0	5.416		0.103		0.250	84700	33800
6.000	NAB600	0.125		0.095		5.631		0.548	0.381	0.171	0.151	7.16	6.99	210.0	5.651		0.102		0.261	88300	37000
6.250	NAB625	0.156		0.124		5.866		0.573	0.396	0.176	0.151	7.46	7.24	282.0	5.886		0.132		0.273	114800	40000
6.500	NAB650	0.156		0.123		6.100		0.598	0.438	0.236	0.151	7.87	7.69	330.0	6.120		0.131		0.285	119400	43500
6.750	NAB675	0.156		0.122		6.335	+ .020 - .050	0.620	0.456	0.246	0.182	8.06	7.87	356.0	6.355		0.130		0.295	124000	47000
7.000	NAB700	0.156		0.122	± .003	6.570		0.641	0.474	0.256	0.182	8.36	8.16	388.0	6.590		0.129		0.307	128600	50500
7.500	NAB750	0.187	± 0.005	0.149		7.039		0.688	0.507	0.269	0.182	8.96	8.75	534.0	7.059	+ .000 - .008	0.158	+ .003 - .000	0.330	165200	58000
8.000	NAB800	0.187		0.149		7.508		0.734	0.540	0.287	0.182	9.56	9.33	628.0	7.528		0.157		0.354	176200	66500
8.500	NAB850	0.187		0.148		7.977		0.778	0.573	0.305	0.182	10.16	9.91	700.0	7.997		0.154		0.376	187200	75000
9.000	NAB900	0.187		0.145		8.445	+ .020 - .060	0.824	0.609	0.324	0.182	10.75	10.49	757.0	8.465		0.153		0.400	198200	86000
9.500	NAB950	0.187		0.141		8.915		0.866	0.642	0.347	0.182	11.34	11.06	820.0	8.935		0.150		0.423	209200	94500
10.000	NAB1000	0.187		0.139		9.385		0.912	0.675	0.357	0.182	11.94	11.65	964.0	9.405		0.148		0.445	220200	105000

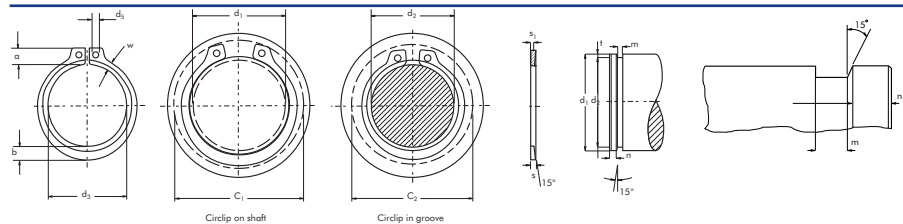
 **Part Number**
 Référence Teile Nummer Referencia de pieza

 **Tolerance**
 Tolérance Toleranz Tolerancia




 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



Anneaux chanfreinés Keilringe für Bohrungen Anillos chafanados BEVELLED RINGS FOR BORES

d ₁	M1302 JB																D A T A						
		s	Δ	s ₁	Δ	d ₃	Δ	a max.	b ≈	d ₅ min.	C ₁	C ₂	 (kg/1000)	d ₂	Δ	m min.	Δ	t	n	FR (kN)	g	FRg (kN)	K (kN/mm)
40	JB40	1.65		1.25		44.0		5.3	4.0	1.9	28.9	32.2	4.05	42.8		1.30		1.40	4.5	24.8	2.0	4.6	47.2
41	JB41	1.65		1.22		45.8		5.9	4.0	1.9	28.1	32.2	4.55	44.0		1.30		1.40	4.7	23.2	2.0	4.3	44.2
42	JB42	1.65		1.22		46.6		5.9	4.2	1.9	29.0	33.2	4.73	45.0		1.30		1.50	4.8	23.7	2.0	4.4	45.5
43	JB43	1.65		1.19		47.6		5.9	4.3	1.9	30.6	34.2	4.91	46.0		1.27		1.50	4.9	22.9	2.0	4.3	44.2
44	JB44	1.65		1.19	-0.05	49.3	+0.9 -0.6	6.1	4.3	1.9	31.2	35.0	4.68	47.2	+0.13	1.27	+0.025	1.85	5.1	22.1	2.0	4.2	42.9
46	JB46	1.65		1.19		51.1		6.1	4.3	2.3	33.2	37.2	5.23	49.4		1.27		1.70	5.2	20.9	2.0	4.0	40.9
47	JB47	1.65		1.19		52.2		6.1	4.3	2.3	34.2	38.2	5.82	50.4		1.27		1.70	5.3	20.3	2.0	3.9	40.4
48	JB48	1.65		1.19		52.6		6.1	4.3	2.3	35.2	39.3	5.82	51.5		1.27		1.75	5.4	17.9	2.0	3.5	35.5
51	JB51	1.65		1.15		56.1		6.2	4.3	2.3	38.0	42.2	6.36	54.6		1.22		1.80	5.7	17.5	2.0	3.4	35.2
52	JB52	2.05		1.50		57.9		6.5	4.7	2.3	38.4	42.7	8.18	55.7		1.65		1.85	5.9	46.3	2.0	9.1	81.3
54	JB54	2.05		1.56		59.7		6.7	4.9	2.3	40.0	44.5	8.82	57.9		1.65		1.95	6.1	45.9	2.0	9.1	81.5
56	JB56	2.05		1.54		61.3		6.8	5.0	2.3	41.7	46.5	8.91	60.1		1.63		2.05	6.4	43.9	2.0	8.8	78.7
57	JB57	2.05		1.54	-0.075	63.2		7.0	5.2	2.3	42.3	47.5	9.91	61.5		1.63		2.25	6.7	44.5	2.0	8.9	80.1
60	JB60	2.05		1.51		66.8		7.0	5.3	2.3	45.3	50.5	10.55	64.5		1.60		2.25	7.0	43.6	2.0	7.8	79.7
62	JB62	2.05		1.48		68.6	+1.0 -0.75	7.2	5.2	2.7	46.9	52.1	11.54	66.5		1.57		2.25	7.0	38.0	2.0	7.8	70.0
63	JB63	2.05	-0.15	1.48		77.5		7.2	5.3	2.7	47.9	53.3	11.59	67.7		1.57	+0.038	2.35	7.2	37.9	2.0	7.8	70.2
65	JB65	2.45		1.88		72.2		7.5	5.6	2.7	49.3	54.8	15.45	69.8		1.98		2.40	7.4	71.1	2.5	11.9	132.9
67	JB67	2.45		1.85		73.9		7.5	5.7	2.7	51.2	56.9	15.68	71.9		1.96		2.45	7.7	68.1	2.5	11.6	128.6
68	JB68	2.45		1.85	-0.10	75.7		7.7	6.0	2.7	51.9	57.7	15.91	73.1		1.96		2.55	7.8	70.4	2.5	12.0	133.4
70	JB70	2.45		1.83		77.5		7.7	5.9	2.7	53.9	59.8	16.14	75.2		1.93		2.60	8.0	66.0	2.5	11.4	126.3
72	JB72	2.45		1.83		79.3		7.7	5.8	2.7	55.9	61.9	16.36	77.3	+0.15	1.93		2.65	8.2	61.9	2.5	10.8	119.6
78	JB78	2.85		2.15		86.8		8.1	6.5	3.1	61.0	67.5	24.09	73.7		2.26		2.85	8.9	112.7	2.5	20.2	197.5
80	JB80	2.85		2.15		89.5		8.1	6.7	3.1	63.0	69.8	25.19	86.0		2.26		3.00	9.0	112.2	2.5	20.2	198.4
82	JB82	2.85		2.15		92.0		8.9	6.8	3.1	63.3	70.3	27.27	88.1		2.26		3.05	9.1	110.0	2.5	20.0	196.5
85	JB85	2.85		2.15		94.8	±1.4	8.9	7.0	3.1	66.3	73.4	29.55	91.2		2.26		3.10	9.6	108.0	3.0	16.6	195.3
88	JB88	2.85		2.15		98.0		8.9	7.4	3.1	69.3	76.8	31.36	94.6		2.26		3.30	10.0	108.8	3.0	16.9	199.3
90	JB90	2.85		2.15		100.0		8.9	7.4	3.1	71.3	79.0	32.73	96.8		2.26		3.40	10.4	105.3	3.0	16.5	194.5
92	JB92	2.85		2.15	-0.13	102.2		8.9	7.7	3.1	73.3	81.2	33.18	99.0		2.26	+0.051	3.50	10.7	106.4	3.0	16.8	198.0
95	JB95	2.85		2.15		105.6		8.9	7.8	3.1	75.3	84.3	35.45	102.1		2.26		3.55	11.3	103.1	3.0	16.6	194.3
98	JB98	2.85		2.15		109.0		9.6	8.1	3.1	77.9	86.3	39.55	105.5		2.26		3.75	11.5	102.4	3.0	16.6	195.4
100	JB100	2.85		2.15		110.7		9.6	8.1	3.1	79.9	88.4	40.00	107.6		2.26		3.80	11.6	99.5	3.0	16.3	191.4
102	JB102	2.85		2.15		112.4	±1.65	9.6	8.4	3.1	81.9	90.5	42.27	109.7		2.26		3.85	11.7	100.5	3.0	16.6	194.8
105	JB105	2.85		2.15		115.8		9.6	8.4	3.1	84.9	93.6	44.09	112.8		2.26		3.90	12.0	96.4	3.0	16.1	183.1
108	JB108	2.85		2.15		119.2		9.6	8.5	3.1	87.9	96.9	45.91	116.1		2.26		4.05	12.1	93.6	3.0	15.8	185.8
110	JB110	2.85		2.15		120.8		10.5	8.6	3.8	89.9	97.0	47.73	118.0		2.26		4.00	12.3	92.5	3.0	15.7	184.9

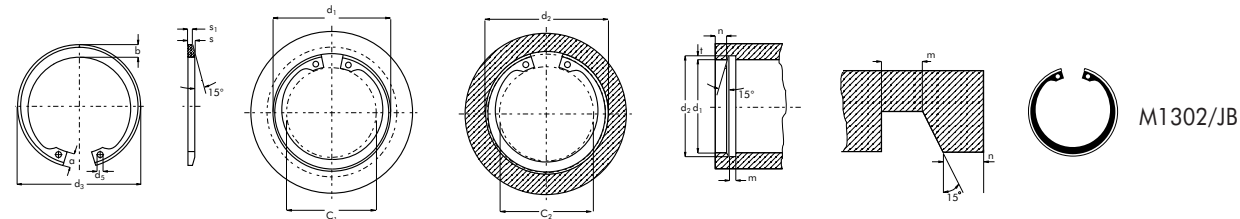
 **Part Number**
 Référence Teile Nummer Referencia de pieza




 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

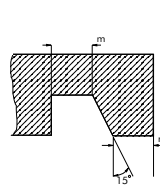
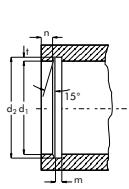
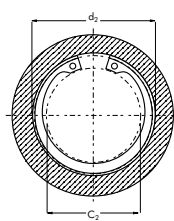
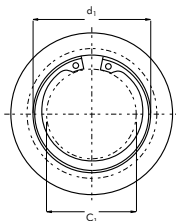
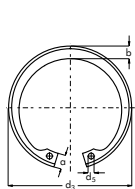
 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



d ₁	M1302 JB																D A T A						
		s	Δ	s ₁	Δ	d ₃	Δ	a max.	b ≈	d ₅ min.	C ₁	C ₂	 (kg/1000)	d ₂	Δ	m min.	Δ	t	n	FR (kN)	g	FRg (kN)	K (kN/mm)
115	JB115	2.85		2.15		125.5	±1.65	10.5	8.9	3.8	93.0	102.2	50.45	123.2		2.26		4.10	12.6	89.8	3.0	15.6	183.2
118	JB118	2.85		2.15		128.9		10.5	8.9	3.8	96.0	105.3	53.18	126.3		2.26		4.15	12.8	86.5	3.0	15.2	178.5
120	JB120	2.85	-0.15	2.15	-0.13	132.4		10.5	9.1	3.8	98.0	107.6	56.36	128.6	+0.15	2.26	+0.051	4.30	13.0	86.3	3.0	15.3	179.2
127	JB127	2.85		2.15		139.3		11.3	9.9	3.8	103.7	113.2	61.82	135.8		2.26		4.40	13.4	86.8	3.0	15.7	184.9
140	JB140	3.25	-0.20	2.49	-0.15	154.1		11.8	10.4	3.8	115.2	125.6	83.18	149.2		2.59		4.60	14.1	119.6	3.0	22.7	266.9

	Part Number Référence Teile Nummer Referencia de pieza		Tolerance Tolérance Toleranz Tolerancia		Weight Masse Gewicht Peso		Ring Anneau/Circlips Ring Anillo		Groove Gorge Nut Ranura
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M1302/JB



CIRTEQ

Anneaux chanfreinés cote pouce Keilringe für Bohrungen Zoll-Standard Anillos chaflanados pulgadas standard BEVELLED RINGS FOR BORES INCH STANDARD

d ₁	N1302 NJB																	D A T A			
		s	Δ	S ₁	Δ	d ₃	Δ	a max.	b ≈	w ~	d ₅ min.	C ₁	C ₂	(lbs/1000)	d ₂	Δ	m	Δ	n min.	Tc	Tg
1.375	NJB137	0.050	±0.002	0.038		1.526	+ .025	0.185	0.130	0.063	0.057	0.99	1.03	5.1	1.475	+ .004	0.041		0.075	9700	2900
1.500	NJB150	0.050		0.037		1.660	- .020	0.185	0.133	0.066	0.060	1.12	1.17	6.5	1.604	- .000	0.040		0.078	10550	3300
1.562	NJB156	0.062	±0.003	0.048	± .001	1.734	+ .035 - .025	0.207	0.160	0.078	0.076	1.10	1.15	8.9	1.674	+ .005 - .000	0.052	+ .001 - .000	0.176	13700	3600
1.625	NJB162	0.062		0.049		1.804		0.229	0.160	0.082	0.076	1.16	1.22	10.0	1.743		0.051		0.185	14200	4000
1.653	NJB165	0.062		0.047		1.835		0.229	0.167	0.083	0.076	1.17	1.22	10.5	1.773		0.051		0.188	14500	4200
1.688	NJB168	0.062		0.046		1.874		0.229	0.170	0.085	0.076	1.23	1.29	10.8	1.810		0.050		0.191	14800	4300
1.750	NJB175	0.062		0.046		1.942		0.239	0.175	0.083	0.076	1.26	1.31	10.3	1.878		0.050		0.200	15300	4700
1.812	NJB181	0.062		0.046		2.012		0.239	0.170	0.084	0.091	1.32	1.38	11.5	1.944		0.050		0.206	15900	5050
1.850	NJB185	0.062		0.046		2.054		0.239	0.170	0.085	0.091	1.35	1.42	12.8	1.984		0.050		0.209	16200	5200
1.875	NJB187	0.062		0.046		2.072		0.239	0.170	0.085	0.091	1.37	1.44	13.0	2.011		0.050		0.212	16450	5400
1.938	NJB193	0.062		0.045		2.141		0.239	0.165	0.085	0.091	1.44	1.51	13.3	2.082		0.049		0.224	17000	5900
2.000	NJB200	0.062		0.044		2.210		0.245	0.170	0.085	0.091	1.50	1.57	14.0	2.144		0.048		0.224	17500	6100
2.062	NJB206	0.078	±0.003	0.060	± .0015	2.280		0.255	0.186	0.091	0.091	1.54	1.61	18.0	2.210		0.065		0.231	22750	6500
2.125	NJB212	0.078		0.060		2.350		0.265	0.195	0.096	0.091	1.58	1.65	19.4	2.279		0.065		0.240	23400	7000
2.188	NJB218	0.078		0.059		2.415		0.269	0.199	0.098	0.091	1.64	1.72	19.6	2.350		0.064		0.252	24100	7450
2.250	NJB225	0.078		0.059		2.490		0.275	0.203	0.099	0.091	1.69	1.77	21.8	2.420		0.064		0.264	24850	8050
2.312	NJB231	0.078		0.058		2.560		0.275	0.205	0.102	0.091	1.75	1.82	22.6	2.484		0.063		0.267	25450	8400
2.375	NJB237	0.078		0.058		2.630		0.275	0.207	0.102	0.091	1.81	1.89	23.2	2.552		0.063		0.275	26150	8900
2.440	NJB244	0.078		0.057		2.702		0.285	0.205	0.103	0.108	1.86	1.94	25.4	2.618		0.062		0.276	26900	9100
2.500	NJB250	0.078		0.057		2.775		0.295	0.210	0.103	0.108	1.91	2.00	25.5	2.684		0.062		0.285	27600	9600
2.562	NJB256	0.093		0.072		2.844		0.295	0.222	0.109	0.108	1.95	2.04	34.0	2.750		0.078		0.291	33700	10200
2.625	NJB262	0.093		0.071		2.910		0.295	0.226	0.111	0.108	2.02	2.11	34.5	2.820		0.077		0.302	34550	20800
2.688	NJB268	0.093	± .002	0.071		2.980		0.305	0.236	0.113	0.108	2.06	2.16	35.0	2.887	+ .006 - .000	0.077		0.308	35400	11300
2.750	NJB275	0.093		0.070		3.050		0.305	0.234	0.115	0.108	2.12	2.21	35.5	2.955		0.076		0.317	36100	11800
2.812	NJB281	0.093		0.070		3.121		0.305	0.230	0.115	0.108	2.18	2.27	36.0	3.020		0.076		0.321	36950	12200
2.875	NJB287	0.093		0.070		3.191		0.315	0.240	0.120	0.108	2.22	2.32	41.0	3.085		0.076		0.324	37800	12600
3.000	NJB300	0.093		0.068		3.325		0.318	0.250	0.122	0.108	2.35	2.46	42.4	3.225		0.074		0.347	39500	14200
3.062	NJB306	0.109		0.082		3.418		0.318	0.254	0.126	0.123	2.41	2.51	53.0	3.290		0.089		0.351	47100	14800
3.125	NJB312	0.109		0.082		3.488		0.318	0.260	0.129	0.123	2.47	2.58	56.0	3.355		0.083		0.354	48100	15200
3.156	NJB315	0.109		0.082		3.523		0.318	0.260	0.129	0.123	2.50	2.61	57.0	3.388		0.089		0.357	48600	15500
3.250	NJB325	0.109		0.082		3.623		0.350	0.269	0.135	0.123	2.54	2.65	60.0	3.489		0.089		0.368	50000	16400
3.346	NJB334	0.109		0.082		3.734		0.350	0.276	0.140	0.123	2.63	2.74	65.0	3.591		0.089		0.377	51600	17300
3.469	NJB346	0.109	± .0025	0.082		3.857	± .055	0.350	0.294	0.144	0.123	2.76	2.88	69.0	3.726		0.089	+ .002 - .000	0.395	53400	18800
3.500	NJB350	0.109		0.082		3.890		0.350	0.294	0.142	0.123	2.79	2.91	71.0	3.760		0.089		0.399	53900	19300
3.543	NJB354	0.109		0.082		3.936		0.350	0.292	0.142	0.123	2.85	2.97	78.0	3.806		0.089		0.396	54600	19800

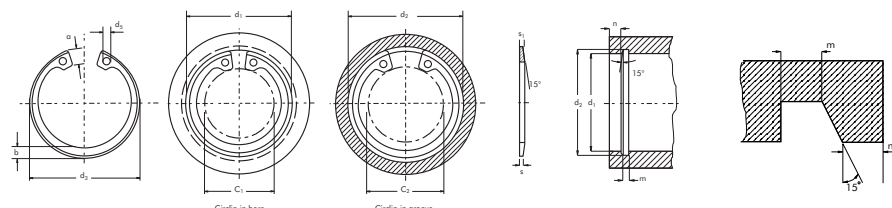
 **Part Number**
 Référence Teile Nummer Referencia de pieza

 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



d ₁	N1302 NJB	⊙											⊕				D A T A								
		s	Δ	S ₁	Δ	d ₃	Δ	a max.	b ≈	w ~	d ₅ min.	C ₁	C ₂	$\frac{\Delta}{(lbs/1000)}$	d ₂	Δ	m	Δ	n min.	Tc	Tg				
3.625 3.750	NJB362 NJB375	0.109 0.109		0.082 0.082		4.024 4.157		0.350 0.350	0.298 0.309	0.150 0.155	0.123 0.123	2.91 3.03	3.03 3.17	73.0 78.0	3.900 4.040		0.089 0.089			0.422 0.444	55900 57700	21100 23100			
3.875 3.938 4.000 4.125 4.250	NJB387 NJB393 NJB400 NJB412 NJB425	0.109 0.109 0.109 0.109 0.109	±0.003	0.082 0.082 0.082 0.082 0.082	±.0025	4.291 4.358 4.424 4.558 4.691	±.065	0.378 0.378 0.378 0.378 0.378	0.312 0.320 0.330 0.330 0.335	0.160 0.161 0.166 0.171 0.180	0.123 0.123 0.123 0.123 0.123	3.11 3.17 3.23 3.36 3.48	3.25 3.31 3.37 3.51 3.63	87.0 88.0 93.0 97.0 101.0	4.171 4.236 4.302 4.433 4.562	+0.006 -0.000	0.089 0.089 0.089 0.089 0.089	+0.002 -0.000	0.453 0.456 0.462 0.471 0.477	49700 50500 51300 53000 54500	16500 16900 17400 18300 19100				
4.331 4.500 4.625 4.750 5.000	NJB433 NJB450 NJB462 NJB475 NJB500	0.109 0.109 0.109 0.109 0.109		0.082 0.082 0.082 0.082 0.082		4.756 4.940 5.076 5.213 5.485		0.413 0.413 0.413 0.413 0.443	0.345 0.351 0.350 0.370 0.395	0.181 0.183 0.183 0.183 0.186	0.151 0.151 0.151 0.151 0.151	3.50 3.66 3.79 3.90 4.08	3.65 3.81 3.95 4.06 4.25	105.0 111.0 117.0 124.0 136.0	4.647 4.824 4.955 4.086 5.346		0.089 0.089 0.089 0.089 0.089		0.483 0.495 0.504 0.513 0.528	55600 57800 59400 61000 64200	19700 21000 22000 23000 24900				
5.250 5.375 5.500	NJB525 NJB537 NJB550	0.125 0.125 0.125		±0.004		0.095 0.095 0.095		±.080	5.770 5.910 6.066	0.465 0.465 0.465	0.408 0.408 0.408	0.198 0.198 0.198	0.151 0.151 0.151	4.31 4.41 4.53	4.48 4.58 4.70		174.0 179.0 183.0		5.612 5.739 5.864	+0.007 -0.000	0.102 0.102 0.102	+0.003 -0.000	0.554 0.557 0.557	77300 79100 81000	27300 28100 28800
5.750 6.000 6.250 6.500	NJB575 NJB600 NJB625 NJB650	0.125 0.125 0.156 0.156				0.095 0.095 0.121 0.121			6.336 6.620 6.895 7.170	0.465 0.465 0.454 0.454	0.408 0.416 0.441 0.441	0.198 0.196 0.211 0.219	0.198 0.223 0.213 0.244	4.78 5.03 5.24 5.49	4.96 5.21 5.43 5.68		192.0 201.0 266.0 281.0		6.020 6.270 6.530 6.790		0.139 0.139 0.174 0.174		0.405 0.405 0.420 0.435	84700 88400 114900 119500	43900 45800 49500 53300
6.625 6.750 7.000 7.250 7.500	NJB662 NJB675 NJB700 NJB725 NJB750	0.156 0.156 0.156 0.187 0.187				0.121 0.120 0.120 0.150 0.150			7.308 7.445 7.720 7.995 8.270	0.454 0.508 0.540 0.570 0.570	0.441 0.456 0.485 0.490 0.507	0.221 0.224 0.232 0.238 0.247	0.220 0.224 0.258 0.239 0.282	5.60 5.65 5.88 6.08 6.33	5.80 5.85 6.09 6.30 6.56		305.0 325.0 344.0 428.0 485.0		6.925 7.055 7.315 7.575 7.840		0.174 0.174 0.174 0.209 0.209		0.450 0.456 0.471 0.486 0.510	121700 124000 128600 159700 165200	56200 58000 62200 66400 72100
7.750 8.000 8.250 8.500 8.750	NJB775 NJB800 NJB825 NJB850 NJB875	0.187 0.187 0.187 0.187 0.187	±0.005	0.150 0.146 0.146 0.142 0.142	±.090	8.545 8.820 9.095 9.285 9.558	0.560 0.600 0.600 0.632 0.632	0.500 0.550 0.548 0.573 0.576	0.255 0.262 0.270 0.277 0.286	0.241 0.280 0.260 0.277 0.283	6.58 6.75 7.00 7.13 7.38	6.82 6.99 7.25 7.39 7.65	520.0 555.0 603.0 634.0 653.0	8.100 8.360 8.620 8.880 9.145	±0.008	0.209 0.209 0.209 0.209 0.209	+0.003 -0.000	0.525 0.540 0.555 0.570 0.591	170700 152700 157500 162300 167000	76700 81400 86300 91300 97700					
9.000 9.250 9.500 9.750 10.000	NJB900 NJB925 NJB950 NJB975 NJB1000	0.187 0.187 0.187 0.187 0.187		0.142 0.142 0.138 0.138 0.138		9.830 10.102 10.375 10.648 10.920	0.632 0.632 0.622 No LUG	0.592 0.622 0.304 0.309 0.315	0.294 0.299 0.354 0.295 0.295	0.295 0.299 0.329 0.295 0.295	7.63 7.88 7.98 8.23 8.48	7.91 8.16 8.27 8.52 8.78	732.0 767.0 803.0 833.0 863.0	9.405 9.668 9.930 0.190 10.450		0.209 0.209 0.209 0.209 0.209		0.606 0.627 0.645 0.660 0.675	171800 176600 181400 186200 191000	103000 109000 116000 121300 127200					

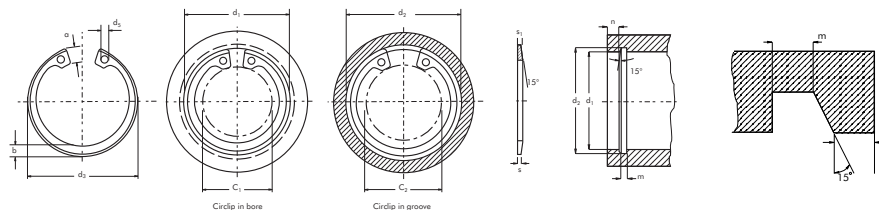
Part Number
Référence Teile Nummer Referencia de pieza

Tolerance
Tolérance Toleranz Tolerancia

Weight
Masse Gewicht Peso

Ring
Anneau/Circlips Ring Anillo

Groove
Gorge Nut Ranura






N1302/NJB



CIRTEQ

Anneaux chanfreinés cote pouce Keilringe für Bohrungen Zoll-Standard Anillos chaflanados pulgadas standard **DOUBLE BEVELLED RINGS FOR BORES INCH STANDARD**

d ₁	N1303 NDB																	D A T A			
		s	Δ	S ₁	Δ	d ₃	Δ	a max.	b ≈	w ~	d ₅ min.	C ₁	C ₂	 (lbs/1000)	d ₂	Δ	^m at bottom of groove	Δ	n min.	T _c	T _g
1.562	NDB156	0.053		0.040		1.734		0.225	0.157	0.078	0.076	1.11	1.16	7.6	1.674		0.052		0.084	11550	3600
1.625	NDB162	0.053		0.040		1.804		0.225	0.164	0.082	0.076	1.17	1.22	8.5	1.743		0.052		0.088	11950	4000
1.653	NDB165	0.053		0.040		1.834		0.225	0.167	0.083	0.076	1.19	1.25	8.9	1.773		0.052		0.090	12200	4200
1.688	NDB168	0.053		0.040		1.874		0.225	0.170	0.085	0.076	1.23	1.28	9.2	1.810		0.052		0.091	12450	4300
1.750	NDB175	0.052	±0.003	0.038		1.942		0.245	0.171	0.083	0.076	1.25	1.31	8.6	1.878		0.050		0.096	12850	4700
1.812	NDB181	0.052		0.038		2.012	+ .035 - .025	0.245	0.170	0.084	0.091	1.31	1.37	9.6	1.944	+ .005 - .000	0.050	+ .005 - .000	0.099	13350	5050
1.850	NDB187	0.052		0.038		2.054		0.245	0.170	0.085	0.091	1.37	1.43	10.7	1.984		0.050		0.100	13600	5200
1.938	NDB193	0.052		0.038		2.141		0.245	0.170	0.085	0.091	1.44	1.50	11.2	2.082		0.050		0.108	14250	5900
2.000	NDB200	0.052		0.038		2.210		0.245	0.170	0.085	0.091	1.50	1.56	11.7	2.144		0.050		0.108	14700	6100
2.062	NDB206	0.068		0.051	± .003	2.280		0.260	0.186	0.091	0.091	1.53	1.59	15.7	2.210		0.065		0.111	19850	6500
2.125	NDB212	0.068		0.051		2.350		0.260	0.195	0.096	0.091	1.59	1.66	16.9	2.279		0.065		0.115	20400	7000
2.188	NDB218	0.068		0.051		2.415		0.260	0.199	0.098	0.091	1.65	1.72	17.1	2.350		0.065		0.121	21000	7450
2.250	NDB225	0.068		0.0485		2.490		0.280	0.203	0.099	0.091	1.67	1.75	18.9	2.420		0.062		0.127	21500	8050
2.312	NDB231	0.068		0.0485		2.535		0.280	0.209	0.102	0.091	1.74	1.81	19.6	2.484		0.062		0.129	22000	8400
2.375	NDB237	0.068	±0.004	0.0485		2.630	+ .040 - .030	0.280	0.207	0.102	0.091	1.80	1.88	20.1	2.552		0.062		0.133	22650	8900
2.440	NDB244	0.068		0.0485		2.702		0.280	0.209	0.103	0.108	1.86	1.94	22.0	2.618	+ .006 - .000	0.062	+ .006 - .000	0.133	23300	9100
2.500	NDB250	0.068		0.0485		2.775		0.280	0.210	0.103	0.108	1.92	2.00	22.1	2.684		0.062		0.138	23900	9600
2.562	NDB256	0.082		0.060		2.844		0.300	0.222	0.109	0.108	1.94	2.02	30.0	2.750		0.076		0.141	29700	10200
2.625	NDB262	0.082		0.060		2.910		0.300	0.226	0.111	0.108	2.00	2.09	30.4	2.820		0.076		0.145	30500	10800
2.688	NDB268	0.082		0.060		2.980		0.300	0.230	0.113	0.108	2.07	2.15	30.9	2.887		0.076		0.148	31200	11300
2.750	NDB275	0.082		0.060		3.050		0.300	0.234	0.115	0.108	2.13	2.22	31.3	2.955		0.076		0.153	31800	11800
2.812	NDB281	0.082		0.060		3.121		0.300	0.230	0.115	0.108	2.19	2.28	31.7	3.020		0.076		0.156	32600	12200

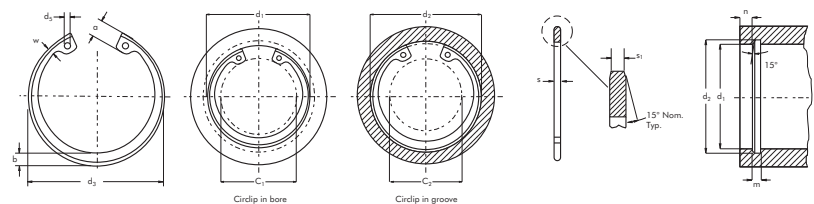
 **Part Number**
 Référence Teile Nummer Referencia de pieza




 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



d ₁	M1401 AW															
		s	Δ	d ₃	Δ	a max.	b ≈	d ₅ min.	h	Δ	 (kg/1000)	d ₂	Δ	m min.	t	n
40	AW40	1.75		36.5		6.0	4.4	2.5	3.5		6.03	37.3		3.4	1.35	4
42	AW42	1.75		38.5		6.5	4.5	2.5	3.5	+0.8	6.50	39.3		3.4	1.35	4
45	AW45	1.75		41.5	+0.39	6.7	4.7	2.5	3.6	-0.0	7.50	42.3	+0.00	3.5	1.35	4
47	AW47	1.75		43.5	-0.90	6.8	4.9	2.5	3.7		7.50	44.3	-0.25	3.5	1.35	4
50	AW50	2.00		45.8		6.9	5.1	2.5	4.0		10.20	46.7		3.9	1.65	5
52	AW52	2.00		47.8		7.0	5.2	2.5	4.1		11.10	48.7		3.9	1.65	5
55	AW55	2.00		50.8		7.2	5.4	2.5	4.2	+1.0	11.40	51.7		4.1	1.65	5
57	AW57	2.00		52.8		7.3	5.5	2.5	4.2	-0.0	12.20	53.7		4.1	1.65	5
60	AW60	2.00		55.8		7.4	5.8	2.5	4.3		12.90	56.7		4.2	1.65	5
62	AW62	2.00		57.8		7.5	6.0	2.5	4.4		14.30	58.7		4.2	1.65	5
65	AW65	2.50		60.8		7.8	6.3	3.0	5.0		18.20	61.7		4.8	1.65	5
67	AW67	2.50		62.8	+0.46	7.9	6.4	3.0	5.0		20.30	63.7	+0.00	4.8	1.65	5
70	AW70	2.50		65.8	-1.10	8.1	6.6	3.0	5.1	+1.3	22.00	66.7	-0.30	4.9	1.65	5
72	AW72	2.50		67.5		8.2	6.8	3.0	5.2	-0.0	22.50	68.7		5.0	1.65	5
75	AW75	2.50		70.5		8.4	7.0	3.0	5.2		24.60	71.7		5.0	1.65	5
77	AW77	2.50		72.5		8.5	7.2	3.0	5.3		25.70	73.7		5.0	1.65	5
80	AW80	2.50		74.5		8.6	7.4	3.0	5.4		27.30	76.0		5.1	2.00	6
82	AW82	2.50		76.5		8.7	7.6	3.0	5.4		31.20	78.0		5.1	2.00	6
85	AW85	3.00		79.5		8.7	7.8	3.5	6.0		36.40	81.0		5.8	2.00	6
87	AW87	3.00		81.5		8.8	7.9	3.5	6.1		39.80	83.0		5.9	2.00	6
90	AW90	3.00		84.5		8.8	8.2	3.5	6.3	+1.5	44.50	86.0	+0.00	6.0	2.00	6
92	AW92	3.00		86.5		9.0	8.4	3.5	6.4	-0.0	46.00	88.0	-0.35	6.1	2.00	6
95	AW95	3.00		89.5		9.4	8.6	3.5	6.6		49.00	91.0		6.2	2.00	6
97	AW97	3.00		91.5	+0.54	9.4	8.8	3.5	6.7		50.20	93.0		6.2	2.00	6
100	AW100	3.00		94.5	-1.30	9.6	9.0	3.5	6.9		53.70	96.0		6.3	2.00	6
105	AW105	4.00		98.0		9.9	9.3	3.5	8.0		80.00	100.5		7.6	2.25	7
110	AW110	4.00		103.0		10.1	9.6	3.5	8.1		82.00	105.5	+0.00	7.7	2.25	7
115	AW115	4.00		108.0		10.6	9.8	3.5	8.2		84.00	110.5	-0.54	7.7	2.25	7
120	AW120	4.00		113.0		11.0	10.2	3.5	8.2	+2.0	86.00	115.5		7.8	2.25	7
125	AW125	4.00		118.0		11.4	10.4	4.0	8.2	-0.0	90.00	120.5		7.8	2.25	7
130	AW130	4.00		123.0		11.6	10.7	4.0	8.3		100.00	125.5		7.9	2.25	7
135	AW135	4.00		128.0		11.8	11.0	4.0	8.3		104.00	130.5	+0.00	7.9	2.25	7
140	AW140	4.00		133.0	+0.63	12.0	11.2	4.0	8.4		110.00	135.5	-0.63	8.0	2.25	7
145	AW145	4.00		138.0	-1.50	12.2	11.5	4.0	8.4		115.00	140.5		8.0	2.25	7
150	AW150	4.00		142.0		13.0	11.8	4.0	8.5		120.00	144.5		8.1	2.75	8

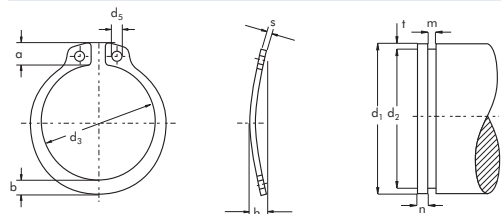
Part Number
Référence Teile Nummer Referencia de pieza

Tolerance
Tolérance Toleranz Tolerancia

Weight
Masse Gewicht Peso

Ring
Anneau/Circlips Ring Anillo

Groove
Gorge Nut Ranura






M1401/AW



CIRTEQ

Circlips bombés pour arbres cote pouce W-Sicherungsringe für Wellen Zoll-Standard Anillos para ejes (arco) pulgadas standard BOWED RINGS FOR SHAFTS INCH STANDARD

d ₁	N1401 NAW																	D A T A																
		s	Δ	d ₃	Δ	a max.	b ≈	w	d _{5 min.}	C ₁	C ₂	h	Δ	 (lbs/1000)	d ₂	Δ	m	Δ	n min.	T _c	T _g													
0.250	NAW25	0.025	±0.002	0.225	+0.002/-0.004	0.083	0.035	0.025	0.039	0.45	0.43	0.047	±0.006	0.21	0.230	±0.015	0.040	±0.003	0.030	590	140													
0.276	NAW27	0.025		0.250	+0.002 -0.005	0.084	0.035	0.024	0.039	0.48	0.46	0.047		±0.007	0.23	0.255	±0.002		0.040	+0.003 -0.000	0.030	650	156											
0.281	NAW28	0.025		0.256		0.083	0.038	0.0255	0.039	0.49	0.47	0.047			0.24	0.290			0.040		0.030	660	160											
0.312	NAW31	0.025		0.281		0.090	0.040	0.026	0.039	0.54	0.52	0.047			0.27	0.321			0.040		0.030	740	192											
0.344	NAW34	0.025		0.309		0.090	0.042	0.0265	0.039	0.57	0.55	0.047			0.31	0.321			0.040		0.030	800	212											
0.354	NAW35	0.025		0.320		0.090	0.046	0.029	0.039	0.59	0.57	0.047			0.35	0.330			0.040		0.030	820	240											
0.375	NAW37	0.025		0.338		±0.003	0.091	0.050	0.0305	0.039	0.61	0.59			0.047	±0.008			0.39		0.352	±0.003	0.040	+0.003 -0.000	0.030	870	260							
0.394	NAW39	0.025		0.354			0.090	0.052	0.031	0.039	0.62	0.60			0.047				0.42		0.369		0.040		0.030	940	268							
0.406	NAW40	0.025		0.366			0.090	0.054	0.033	0.039	0.63	0.61			0.047				0.43		0.382		0.040		0.030	950	280							
0.438	NAW43	0.025		0.395			0.091	0.055	0.033	0.039	0.66	0.64			0.047				0.50		0.412		0.040		0.030	1020	320							
0.469	NAW46	0.025		0.428			0.091	0.060	0.035	0.039	0.68	0.66			0.047				0.54		0.443		0.040		0.030	1100	360							
0.500	NAW50	0.035		0.461			±0.003	0.111	0.065	0.040	0.045	0.77			0.74				0.063		±0.012		0.91		0.468	±0.004	0.055	+0.005 -0.000	0.042	1650	440			
0.562	NAW56	0.035		0.521				0.111	0.072	0.041	0.045	0.82			0.79				0.063				1.10		0.530		0.055		0.042	1850	520			
0.594	NAW59	0.035		0.550				0.112	0.076	0.043	0.045	0.86			0.83				0.063				1.20		0.559		0.055		0.042	1950	600			
0.625	NAW62	0.035		0.579				0.113	0.080	0.045	0.045	0.90			0.87				0.063				1.30		0.588		0.055		0.042	2060	640			
0.672	NAW66	0.035	0.621	±0.010 -0.015				0.113	0.082	0.043	0.045	0.93	0.89		0.063			±0.015	1.40				0.631		±0.005		0.055		+0.005 -0.000	0.042	2200	760		
0.688	NAW68	0.042	0.635		0.140			0.084	0.048	0.050	1.01	0.97	0.073	1.80	0.646		0.062		0.049	3400			800											
0.750	NAW75	0.042	0.693		0.140			0.092	0.057	0.050	1.09	1.05	0.073	2.10	0.704		0.062		0.049	3700			960											
0.781	NAW78	0.042	0.722		0.140			0.094	0.052	0.050	1.12	1.08	0.073	2.20	0.733		0.062		0.049	3900			1040											
0.812	NAW81	0.042	0.751		±0.003			0.140	0.096	0.054	0.050	1.15	1.10	0.073	±0.012		2.50		0.762	±0.004			0.062				+0.005 -0.000			0.049	4000	1160		
0.875	NAW87	0.042	0.810					0.141	0.104	0.057	0.050	1.21	1.16	0.073			2.80		0.821				0.062							0.049	4300	1320		
0.938	NAW93	0.042	0.867			0.170		0.110	0.063	0.076	1.34	1.29	0.073	3.10		0.882	0.062		0.049			4650	1480											
0.984	NAW98	0.042	0.910			0.171		0.114	0.065	0.076	1.39	1.34	0.073	3.50		0.926	0.062		0.049			4850	1600											
1.000	NAW100	0.042	0.925			0.171		0.116	0.065	0.076	1.41	1.35	0.073	3.60		0.940	0.062		0.049			4950	1680											
1.023	NAW102	0.042	0.946			±0.003		0.172	0.118	0.066	0.076	1.43	1.37	0.073		±0.012	3.90		0.961			±0.004	0.062	+0.005 -0.000						0.049	5050	1800		
1.062	NAW106	0.050	0.982					0.185	0.122	0.069	0.076	1.50	1.44	0.085			4.80		0.998				0.070							0.057	6200	1920		
1.125	NAW112	0.050	1.041				0.186	0.128	0.071	0.076	1.55	1.49	0.085	5.10			1.059		0.070		0.057		6600			2080								
1.188	NAW118	0.050	1.098				0.186	0.132	0.072	0.076	1.61	1.54	0.085	5.60			1.118		0.070		0.057		7000			2360								
1.250	NAW125	0.050	1.156				0.187	0.140	0.076	0.076	1.69	1.62	0.085	5.90			1.176		0.070		0.057		7350			2600								
1.312	NAW131	0.050	1.214				±0.003	0.187	0.146	0.077	0.076	1.75	1.67	0.085			±0.012		6.80		1.232		±0.004			0.070		+0.005 -0.000		0.057	7750	2960		
1.375	NAW137	0.050	1.272	0.188				0.152	0.082	0.076	1.80	1.72	0.085	7.20				1.291	0.070		0.057				8100	3280								
1.438	NAW143	0.050	1.333	0.188				0.160	0.086	0.076	1.87	1.74	0.085	8.10				1.350	0.070		0.057				8500	3600								
1.500	NAW150	0.050	1.387	0.218				0.168	0.091	0.118	1.99	1.90	0.085	9.00				1.406	0.070		0.057				8800	4000								
1.625	NAW162	0.062	1.503	0.237				0.180	0.097	0.123	2.17	2.08	0.115	13.20				1.529	0.096		0.069				11850	4400								
1.750	NAW175	0.062	1.618	0.241	0.188			0.101	0.123	2.31	2.21	0.115	15.30	1.650	0.096			0.069	12800	4960														

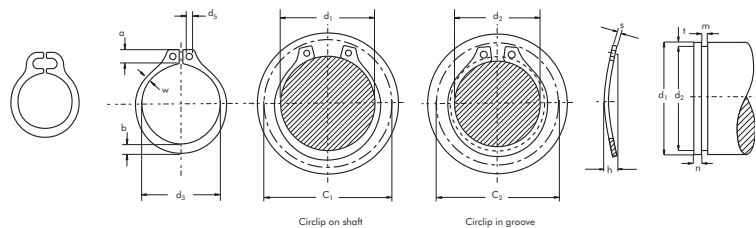
 **Part Number**
 Référence Teile Nummer Referencia de pieza

 **Tolerance**
 Tolérance Toleranz Tolerancia




 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



Circlips bombés pour alésages W-Sicherungsringe für Bohrungen Anillos para agujeros (arco) BOWED RINGS FOR BORES

d ₁	M1301 JW																		
		s	Δ	d ₃	Δ	a max.	b ≈	d ₅ min.	h	Δ	 (kg/1000)	d ₂	Δ	m min.	t	n			
40	JW40	1.75	+0.00 -0.06	43.5	+0.90 -0.39	5.8	3.9	2.5	3.5	+0.8	4.70	42.7	+0.25	3.4	1.35	4			
42	JW42	1.75		45.5		5.9	4.1	2.5	3.5		5.40	44.7		3.4	1.35	4			
45	JW45	1.75		48.5		6.2	4.3	2.5	3.6		6.00	47.7		3.5	1.35	4			
47	JW47	1.75		50.5		6.4	4.4	2.5	3.7		6.10	49.7		3.5	1.35	4			
50	JW50	2.00	+0.00 -0.07	54.2	+1.10 -0.46	6.5	4.6	2.5	4.0	+1.0	7.30	53.3	+0.30	3.9	1.65	5			
52	JW52	2.00		56.2		6.7	4.7	2.5	4.1		8.20	55.3		3.9	1.65	5			
55	JW55	2.00		59.2		6.8	5.0	2.5	4.2		8.30	58.3		4.1	1.65	5			
57	JW57	2.00		61.2		6.8	5.1	2.5	4.2		9.40	60.3		4.1	1.65	5			
60	JW60	2.00		64.2		+1.30 -0.54	7.3	5.4	2.5		4.3	+1.3		11.10	63.3	+0.35	4.2	1.65	5
62	JW62	2.00		66.2			7.3	5.5	2.5		4.4			11.20	65.3		4.2	1.65	5
63	JW63	2.00		67.2			7.3	5.6	2.5		4.4			12.40	66.3		4.2	1.65	5
65	JW65	2.50		69.2			7.6	5.8	3.0		5.0			14.30	70.3		4.8	2.65	5
67	JW67	2.50		71.5			7.7	6.0	3.0		5.0			15.30	73.3		4.8	3.15	5
70	JW70	2.50		74.5		+0.00 -0.08	7.8	6.2	3.0		5.1	+1.5		16.50	73.3	+0.54	4.9	1.65	5
72	JW72	2.50		76.5			7.8	6.4	3.0		5.2			18.10	75.3		5.0	1.65	5
75	JW75	2.50		79.5			7.8	6.6	3.0		5.2			18.80	78.3		5.0	1.65	5
77	JW77	2.50	81.5	7.9	6.7		3.0	5.3	80.3	80.3	5.0		1.65	5					
80	JW80	2.50	85.5	+0.00 -0.10	8.5		7.0	3.0	5.4	+2.0	20.40		84.0	+0.63	5.1		2.00	6	
82	JW82	2.50	87.5		8.5		7.0	3.0	5.4		24.00		86.0		5.1		2.00	6	
85	JW85	3.00	90.5		8.6		7.2	3.5	6.0		25.30		89.0		5.8		2.00	6	
87	JW87	3.00	92.5		8.6		7.3	3.5	6.1		31.00		91.0		5.9		2.00	6	
90	JW90	3.00	95.5	+0.00 -0.10	8.6		7.6	3.5	6.3	+2.0	33.00		94.0	+0.63	6.0		2.00	6	
92	JW92	3.00	100.5		8.7		7.8	3.5	6.4		35.00		96.0		6.1		0.50	6	
95	JW95	3.00	100.5		8.8	8.1	3.5	6.6	37.00		96.0	6.2	0.50		6				
100	JW100	3.00	105.5		+0.00 -0.10	9.2	8.4	3.5	6.9		+2.0	42.00	104.0		+0.54	6.3	2.00	6	
105	JW105	4.00	112.0			9.5	8.7	3.5	8.0			56.00	109.5			7.6	2.25	7	
110	JW110	4.00	117.0			10.4	9.0	3.5	8.1			64.50	114.5			7.7	2.25	7	
115	JW115	4.00	122.0			10.5	9.3	3.5	8.1			74.50	119.5			7.7	2.25	7	
120	JW120	4.00	127.0		+0.00 -0.10	11.0	9.7	3.5	8.2		+2.0	77.00	124.5		+0.63	7.8	2.25	7	
125	JW125	4.00	132.0			11.0	10.0	4.0	8.2			79.00	129.5			7.8	2.25	7	
130	JW130	4.00	137.0			11.0	10.2	4.0	8.3			82.00	134.5			7.9	2.25	7	
135	JW135	4.00	142.0			11.2	10.5	4.0	8.3			84.00	139.5			7.9	2.25	7	
140	JW140	4.00	147.0			11.2	10.7	4.0	8.4			87.50	144.5			8.0	2.25	7	
145	JW145	4.00	152.0			+0.00 -0.10	11.4	10.9	4.0			8.4	+2.0			93.00	149.5	+0.63	8.0	2.25	7
150	JW150	4.00	158.0		12.0		11.2	4.0	8.5		105.00	155.5			8.1	2.75	8		

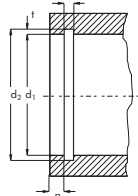
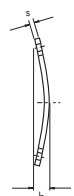
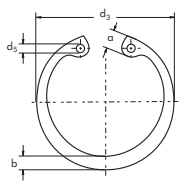
Part Number
Référence Teile Nummer Referencia de pieza

Tolerance
Tolérance Toleranz Tolerancia

Weight
Masse Gewicht Peso




Ring
Anneau/Circlips Ring Anillo

Groove
Gorge Nut Ranura



CIRTEQ

Circlips bombés pour alésages cote pouce W-Sicherungsringe für Bohrungen Zoll-Standard Anillos para agujeros pulgadas standard BOWED RINGS FOR BORES INCH STANDARD

d ₁	N1301 NJW	s																D A T A					
			Δ	d ₃	Δ	a max.	b ≈	w	d _{5 min.}	C ₁	C ₂	h	Δ	 (lbs/1000)	d ₂	Δ	m	Δ	n min.	Tc	Tg		
0.250	NJW25	0.015	±0.002	0.280	±.010	0.068	0.025	0.015	0.029	0.115	0.133	0.036	±.006	0.08	0.268	±.001/.0015	0.018	+.002/-.000	0.027	530	130		
0.312	NJW31	0.015		0.346		0.069	0.033	0.018	0.029	0.173	0.191	0.036		0.11	0.330		0.018		0.027	660	160		
0.375	NJW37	0.025		0.415		0.085	0.040	0.028	0.039	0.204	0.226	0.047	±.006	0.25	0.397	0.029	0.033	1320	235				
0.438	NJW43	0.025		0.482		0.101	0.049	0.029	0.039	0.230	0.254	0.047		0.37	0.461	±.002	0.029	0.036	1550	285			
0.453	NJW45	0.025		0.498		0.101	0.050	0.030	0.045	0.250	0.274	0.047		0.43	0.477	0.029	0.036	1600	310				
0.500	NJW50	0.035	±0.002	0.548	±.015	0.117	0.053	0.035	0.045	0.260	0.290	0.063	±.007	0.70	0.530	±.002	0.039	+.003	0.045	2470	425		
0.562	NJW56	0.035		0.620		0.137	0.053	0.035	0.045	0.275	0.305	0.063		0.86	0.596		0.039		0.051	2780	540		
0.625	NJW62	0.035		0.694		0.137	0.060	0.035	0.060	0.340	0.380	0.063	±.008	1.00	0.665	±.002	0.039	0.060	3090	705			
0.658	NJW68	0.035		0.763		0.137	0.063	0.036	0.060	0.400	0.440	0.063		1.20	0.732	0.039	0.066	3400	855				
0.750	NJW75	0.035		0.831		0.147	0.070	0.040	0.060	0.450	0.490	0.063		±.012	1.30	0.796	0.039	0.069	3710	975			
0.812	NJW81	0.042	0.901	0.160	0.077	0.044	0.060	0.490	0.540	0.073	1.90	0.862	0.046		0.075	4820	1150						
0.875	NJW87	0.042	0.971	0.160	0.084	0.045	0.060	0.545	0.600	0.073	2.10	0.931	0.046		0.084	5190	1390						
0.938	NJW93	0.042	1.041	0.160	0.091	0.050	0.060	0.610	0.670	0.073	±.015	2.40	1.000		±.003	0.046	0.093	5570	1640				
1.000	NJW100	0.042	1.111	0.160	0.104	0.052	0.060	0.665	0.730	0.073		2.70	1.066	0.046	-.000	0.099	5940	1870					
1.023	NJW102	0.042	1.136	0.160	0.106	0.054	0.060	0.690	0.755	0.073		2.80	1.091	0.046	0.102	6070	1970						
1.062	NJW106	0.050	1.180	0.185	0.110	0.055	0.076	0.685	0.750	0.085		3.70	1.130	0.056	0.102	7500	2040						
1.125	NJW112	0.050	1.249	0.185	0.116	0.057	0.076	0.745	0.815	0.085		±.015	4.00	1.197	0.056	0.108	7950	2290					
1.188	NJW118	0.050	1.319	0.185	0.120	0.058	0.076	0.800	0.870	0.085	4.30		1.262	0.056	0.111	8400	2490						
1.250	NJW125	0.050	1.388	0.185	0.124	0.062	0.076	0.875	0.955	0.085	4.80		1.330	±.004	0.056	0.120	8850	2830					
1.312	NJW131	0.050	1.456	0.185	0.130	0.062	0.076	0.930	1.010	0.085	5.00		1.396	0.056	0.126	9300	3120						
1.375	NJW137	0.050	1.526	0.185	0.130	0.063	0.076	0.990	1.070	0.085	5.10		1.461	0.056	0.129	9700	3340						
1.438	NJW143	0.050	1.596	0.185	0.133	0.065	0.076	1.060	1.150	0.085	5.80		1.528	0.056	0.135	10200	3660						
1.500	NJW150	0.050	1.660	0.185	0.133	0.066	0.076	1.120	1.210	0.085	6.10	1.594	0.056	0.141	10600	3990							
1.562	NJW156	0.062	1.734	0.205	0.160	0.079	0.076	1.140	1.230	0.115	9.10	1.658	0.068	0.144	11400	4240							
1.625	NJW162	0.062	1.804	0.205	0.160	0.080	0.076	1.150	1.250	0.115	10.10	1.725	0.068	0.150	11800	4590							
1.688	NJW168	0.062	±0.003	1.874	±.035 -.025	0.205	0.170	0.085	0.076	1.270	1.380	0.115	±.015	10.80	1.792	±.005	0.068	+.005 -.000	0.156	12300	4960		
1.750	NJW175	0.062		1.942		0.205	0.175	0.082	0.076	1.260	1.360	0.115		11.50	1.858	0.068	0.162		12800	5340			

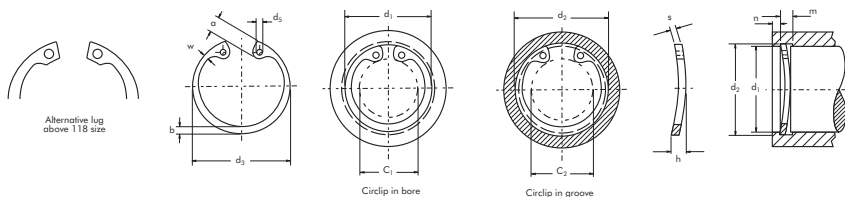
 **Part Number**
 Référence Teile Nummer Referencia de pieza




 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



d ₁	N1501 NRJ NRX												D A T A			
		s	Δ	d ₃	C ₂	X min.	X max.	 (lbs/1000)	d ₂	Δ	m	Δ	T _c	T _g	Applicator	
0.094	NRX009	0.020	±0.002	0.187	0.200	0.025	0.035	0.10	0.074	+ .002 - .000	0.045		108	17	AM5W	
0.110	NRJ011	0.015		0.375	0.390	0.020	0.033	0.20	0.079		0.035		95	32	AM6W	
0.125	NRX012	0.010		0.230	0.240	0.014	0.021	0.06	0.095		0.022		72	35	AM7	
0.140	NRJ014	0.010		0.203	0.215	0.014	0.018	0.06	0.102		0.019		81	50	AM8	
0.140	NRX014	0.015		0.270	0.285	0.020	0.023	0.10	0.105		0.025		121	46	AM9W	
0.156	NRX015	0.015	±0.0015	0.282	0.295	0.020	0.025	0.13	0.116	+ .003 - .000	0.027		135	53	AM11	
0.172	NRJ017	0.015		0.312	0.325	0.020	0.027	0.16	0.127		0.029		149	72	AM12	
0.188	NRJ018	0.015		0.375	0.390	0.020	0.033	0.27	0.125		0.035		163	110	AM13W	
0.188	NRX018	0.015		0.335	0.350	0.020	0.028	0.17	0.147		0.030		163	72	AM14	
0.219	NRJ021	0.015		0.437	0.450	0.020	0.038	0.28	0.188		0.040		190	63	AM14W	
0.250	NRX025	0.025	±0.002	0.527	0.540	0.032	0.047	0.76	0.210	+ .003 - .000	0.049		361	93	9C	
0.311	NRJ031	0.025		0.500	0.520	0.032	0.045	0.57	0.250		0.047		449	177	9C	
0.374	NRX037	0.035		0.660	0.680	0.042	0.053	1.50	0.303		0.060		755	248	AM18W	
0.437	NRX043	0.035		0.687	0.710	0.042	0.058	1.50	0.343		0.060		883	383	AM19W	
0.437	NRJ043	0.035		0.600	0.620	0.042	0.055	1.00	0.380		0.057		883	232	AM20W	
0.500	NRX050	0.042	±0.003	0.800	0.820	0.049	0.071	2.50	0.396	+ .005 - .000	0.073		1210	485	AM21W	
0.625	NRX062	0.042		0.940	0.960	0.049	0.075	3.20	0.485		0.077		1510	816	AM22W	
0.744	NRJ074	0.050		1.000	1.020	0.057	0.083	4.30	0.625		0.085		2150	826	AM23W	
0.748	NRX075	0.050		1.120	1.140	0.057	0.083	5.80	0.580		0.085		2160	1170	AM24W	
0.874	NRX087	0.050		1.300	1.320	0.057	0.083	7.60	0.675		0.085		2520	1620	AM25W	
0.984	NRJ098	0.050	±.003	1.500	1.530	0.057	0.083	9.20	0.835	+ .005 - .000	0.085		2840	1370	AM26W	
1.188	NRJ188	0.062		1.626	1.670	0.070	0.104	11.30	1.079		0.107		4250	1210	-	
1.375	NRJ137	0.062		1.875	1.920	0.070	0.104	15.40	1.230		0.107		4920	1860	-	

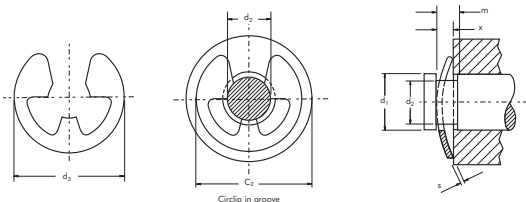
 **Part Number**
Référence Teile Nummer Referencia de pieza

 **Tolerance**
Tolérance Toleranz Tolerancia




 **Weight**
Masse Gewicht Peso

 **Ring**
Anneau/Circlips Ring Anillo

 **Groove**
Gorge Nut Ranura



Circlips type 'L' L-Ringe für Wellen Anillos para ejes tipo 'L' L-RINGS FOR SHAFTS

d ₁	983L AL														D A T A					
		s	Δ	d ₃	Δ	a max.	b ≈	d ₅ min.	 (kg/1000)	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	L min.	C (kN/mm)
16	AL16	0.60	+0.00 -0.05	14.7	+0.10 -0.36	3.5	2.3	1.7	0.82	15.2	-0.11	0.70	0.40	1.2	3.26	2.20	1.0	0.70	0.35	0.43
17	AL17	0.60		15.7		3.6	2.4	1.7	0.93	16.2		0.70	0.40	1.2	3.46	2.10	1.0	0.65	0.35	0.38
18	AL18	0.80		16.5		3.7	2.5	1.7	1.24	17.0		0.90	0.50	1.5	4.58	5.04	1.5	1.12	0.35	0.82
19	AL19	0.80		17.5		3.7	2.6	2.0	1.35	18.0		0.90	0.50	1.5	4.85	5.04	1.5	1.13	0.35	0.81
20	AL20	1.20		18.5		3.8	2.6	2.0	1.45	19.0		1.30	0.50	1.5	5.06	17.10	1.5	3.85	0.35	2.58
22	AL22	1.20	+0.13 -0.42	20.5	+0.21 -0.42	4.0	2.8	2.0	1.77	21.0	-0.15	1.30	0.50	1.5	5.65	16.90	1.5	3.80	0.35	2.27
23	AL23	1.20		21.5		4.1	2.9	2.0	1.84	22.0		1.30	0.50	1.5	5.90	16.60	1.5	3.80	0.35	2.17
24	AL24	1.20		22.2		4.2	3.0	2.0	1.98	22.9		1.30	0.55	1.6	6.75	16.10	1.5	3.65	0.40	1.99
25	AL25	1.20		23.2		4.3	3.0	2.0	2.12	23.9		1.30	0.55	1.6	7.05	16.20	1.5	3.70	0.40	1.89
26	AL26	1.20		24.2		4.4	3.1	2.0	2.18	24.9		1.30	0.55	1.6	7.34	16.10	1.5	3.70	0.40	1.78
28	AL28	1.50		+0.00 -0.06		25.9	+0.25 -0.50	4.5	3.3	2.0		3.15	26.6	-0.21	1.60	0.70	2.1	10.00	32.10	1.5	7.50	0.40	3.28
29	AL29	1.50	26.9		4.7	3.4		2.0	3.35	27.6	1.60	0.70	2.1		10.37	31.80	1.5	7.45	0.40	3.03
30	AL30	1.50	27.9		4.7	3.4		2.0	3.65	28.6	1.60	0.70	2.1		10.70	32.10	1.5	7.65	0.40	2.97
32	AL32	1.50	29.6		5.0	3.6		2.5	4.00	30.3	1.60	0.85	2.5		13.85	31.20	2.0	5.55	0.45	2.57
34	AL34	1.50	31.5		5.1	3.8		2.5	4.15	32.3	1.60	0.85	2.5		14.72	31.30	2.0	5.60	0.45	2.45
35	AL35	1.50	+0.39 -0.90	32.2	+0.46 -1.10	5.2	3.8	2.5	4.38	33.0	-0.25	1.60	1.00	3.0	17.80	30.80	2.0	5.50	0.50	2.32
37	AL37	1.50		34.2		5.4	4.0	2.5	6.30	35.0		1.60	1.00	3.0	18.80	30.00	2.0	5.40	0.50	2.08
38	AL38	1.75		35.2		5.5	4.1	2.5	6.50	36.0		1.85	1.00	3.0	19.30	49.50	2.0	9.10	0.50	3.26
40	AL40	1.75		36.5		7.2	4.2	2.5	7.00	37.5		1.85	1.25	3.8	25.30	51.00	2.0	9.50	0.60	1.98
42	AL42	1.75		38.5		7.2	4.5	2.5	7.50	39.5		1.85	1.25	3.8	26.70	50.00	2.0	9.45	0.60	1.91
45	AL45	1.75		+0.00 -0.07		41.5	+0.54 -1.30	7.2	4.6	2.5		8.50	42.5	-0.30	1.85	1.25	3.8	28.60	49.00	2.0	9.35	0.60	1.86
47	AL47	1.75	43.5		7.2	4.8		2.5	8.70	44.5	1.85	1.25	3.8		30.00	49.50	2.0	9.50	0.60	1.85
48	AL48	1.75	44.5		7.2	4.9		2.5	8.90	45.5	1.85	1.25	3.8		30.70	49.40	2.0	9.50	0.60	1.84
50	AL50	2.00	45.8		8.2	5.0		2.5	11.50	47.0	2.15	1.50	4.5		38.00	73.30	2.0	14.40	0.80	2.05
55	AL55	2.00	50.8		8.2	5.4		2.5	12.99	52.0	2.15	1.50	4.5		42.00	71.40	2.5	11.40	0.80	2.04
58	AL58	2.00	+0.00 -0.07	53.8	+0.54 -1.30	8.2	5.7	2.5	14.30	55.0	-0.30	2.15	1.50	4.5	44.30	71.10	2.5	11.50	0.80	2.02
60	AL60	2.00		55.8		8.2	5.8	2.5	14.80	57.0		2.15	1.50	4.5	46.00	69.30	2.5	11.30	0.80	1.97
62	AL62	2.00		57.8		8.2	5.9	2.5	15.90	59.0		2.15	1.50	4.5	47.50	69.30	2.5	11.40	0.80	1.97
65	AL65	2.50		60.8		10.2	6.2	3.0	21.70	62.0		2.65	1.50	4.5	49.90	135.60	2.5	22.70	1.00	2.45
70	AL70	2.50		+0.00 -0.08		65.5	+0.54 -1.30	10.2	6.6	3.0		25.10	67.0	-0.54	2.65	1.50	4.5	53.80	134.20	2.5	23.00	1.00	2.41
75	AL75	2.50	70.5		10.2	7.0		3.0	28.20	72.0	2.65	1.50	4.5		57.60	130.00	2.5	22.80	1.00	2.34
80	AL80	2.50	74.5		10.2	7.4		3.0	30.75	76.5	2.65	1.75	5.3		71.60	128.40	3.0	19.50	1.00	2.36
85	AL85	3.00	+0.00 -0.08	79.5	+0.54 -1.30	10.2	7.8	3.5	39.50	81.5	-0.54	3.15	1.75	5.3	76.20	215.40	3.0	33.40	1.00	4.05
90	AL90	3.00		84.5		10.2	8.2	3.5	47.70	86.5		3.15	1.75	5.3	80.80	217.20	3.0	34.40	1.00	4.01
95	AL95	3.00		89.5		10.2	8.6	3.5	53.00	91.5		3.15	1.75	5.3	85.50	212.20	3.5	29.30	1.00	4.00

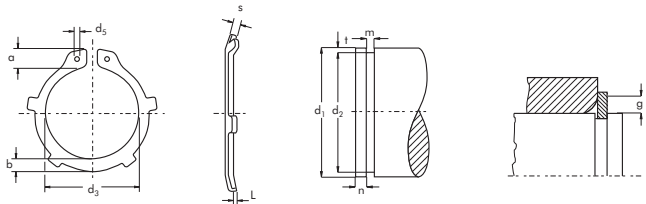
 **Part Number**
 Référence Teile Nummer Referencia de pieza



 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

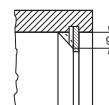
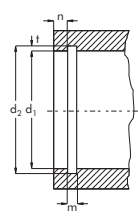
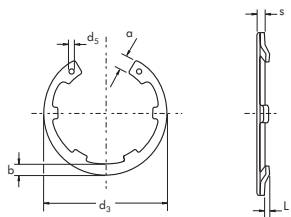
 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



d ₁	984L JL														D A T A					
		s	Δ	d ₃	Δ	a max.	b ≈	d ₅ min.	$\frac{\Delta}{(kg/1000)}$	d ₂	Δ	m min.	t	n	FN (kN)	FR (kN)	g	FRg (kN)	L min.	C (kN/mm)
16	JL16	0.60	+0.00 -0.05	17.3	+0.42 -0.13	3.4	2.1	1.7	0.72	16.8	+0.11/-0.00	0.70	0.40	1.2	3.40	1.75	1.0	0.56	0.25	0.47
17	JL17	0.60		18.3		3.7	2.2	1.7	0.80	17.8		0.70	0.40	1.2	3.60	1.71	1.0	0.54	0.25	0.38
18	JL18	0.80		19.5		4.1	2.3	1.7	0.90	19.0		0.90	0.50	1.5	4.80	4.20	1.0	1.33	0.25	0.72
19	JL19	0.80		20.5		3.8	2.3	2.0	0.99	20.0		0.90	0.50	1.5	5.10	4.06	1.0	1.29	0.25	0.86
20	JL20	1.00		21.5		3.9	2.4	2.0	1.06	21.0		1.10	0.50	1.5	5.40	7.80	1.0	2.50	0.25	1.55
21	JL21	1.00	+0.00 -0.06	22.5	+0.42 -0.21	4.0	2.4	2.0	1.17	22.0	+0.15 -0.00	1.10	0.50	1.5	5.70	8.10	1.0	2.60	0.25	1.50
22	JL22	1.00		23.5		4.0	2.6	2.0	1.28	23.0		1.10	0.50	1.5	5.90	8.35	1.0	2.70	0.35	1.52
23	JL23	1.20		24.6		4.1	2.6	2.0	1.48	24.1		1.30	0.55	1.6	6.80	13.80	1.0	4.50	0.35	2.42
24	JL24	1.20		25.9		4.2	2.6	2.0	1.60	25.2		1.30	0.60	1.8	7.70	13.90	1.0	4.60	0.35	2.26
25	JL25	1.20		26.9		4.4	2.8	2.0	1.72	26.2		1.30	0.60	1.8	8.00	14.60	1.0	4.70	0.35	2.12
26	JL26	1.20	+0.00 -0.06	28.5	+0.50 -0.25	4.4	2.8	2.0	2.00	27.2	+0.21 -0.00	1.30	0.60	1.8	8.40	13.80	1.0	4.60	0.35	2.04
27	JL27	1.20		29.1		4.5	2.9	2.0	2.00	28.4		1.30	0.70	2.1	10.10	13.30	1.0	4.50	0.35	1.94
28	JL28	1.20		30.1		4.9	3.0	2.0	2.10	29.4		1.30	0.70	2.1	10.50	13.30	1.0	4.50	0.35	1.57
30	JL30	1.20		32.1		4.9	3.2	2.0	2.35	31.4		1.30	0.70	2.1	11.30	13.70	1.0	4.60	0.35	1.58
32	JL32	1.20		34.4		5.1	3.3	2.5	2.50	33.7		1.30	0.85	2.5	14.60	13.80	1.0	4.60	0.35	1.55
34	JL34	1.50	36.5	5.3	3.4	2.5	3.80	35.7	1.60	0.85	2.5	15.40	26.20	1.5	6.30	0.45	2.65			
35	JL35	1.50	37.8	5.5	3.6	2.5	4.00	37.0	1.60	1.00	3.0	18.80	26.90	1.5	6.40	0.45	2.61			
36	JL36	1.50	38.8	5.6	3.6	2.5	4.15	38.0	1.60	1.00	3.0	19.40	26.40	1.5	6.40	0.45	2.48			
38	JL38	1.50	+0.00 -0.07	40.8	+0.90 -0.39	6.1	3.8	2.5	4.40	40.0	+0.25 -0.00	1.60	1.00	3.0	22.50	28.20	1.5	6.70	0.45	2.07
40	JL40	1.75		43.5		7.2	4.0	2.5	5.30	42.5		1.85	1.25	3.8	27.00	44.60	2.0	8.30	0.55	2.42
42	JL42	1.75		45.5		7.2	4.1	2.5	6.00	44.5		1.85	1.25	3.8	28.40	44.70	2.0	8.40	0.55	2.44
45	JL45	1.75		48.5		7.2	4.3	2.5	6.60	47.5		1.85	1.25	3.8	30.20	43.10	2.0	8.20	0.55	2.36
47	JL47	1.75		50.5		7.2	4.5	2.5	6.90	49.5		1.85	1.25	3.8	31.40	43.50	2.0	8.30	0.55	2.39
50	JL50	2.00	54.2	8.2	4.7	2.5	8.50	53.0	2.15	1.50	4.5	40.40	60.80	2.0	12.10	0.65	2.64			
52	JL52	2.00	56.2	8.2	4.7	2.5	9.40	55.0	2.15	1.50	4.5	42.00	60.20	2.0	12.00	0.65	2.57			
55	JL55	2.00	59.2	8.2	5.1	2.5	9.75	58.0	2.15	1.50	4.5	44.40	60.30	2.0	12.50	0.65	2.64			
57	JL57	2.00	+0.00 -0.07	61.2	+1.10 -0.46	8.2	5.2	2.5	11.65	60.0	+0.30 -0.00	2.15	1.50	4.5	46.00	60.80	2.0	12.70	0.65	2.67
60	JL60	2.00		64.2		8.2	5.5	2.5	12.70	63.0		2.15	1.50	4.5	48.30	61.00	2.0	13.00	0.65	2.68
62	JL62	2.00		66.2		8.2	5.6	2.5	12.75	65.0		2.15	1.50	4.5	49.80	60.90	2.0	13.00	0.65	2.67
65	JL65	2.50		69.2		10.2	5.8	3.0	16.70	68.0		2.65	1.50	4.5	51.80	121.00	2.5	20.80	0.90	3.62
70	JL70	2.50		74.5		10.2	6.2	3.0	20.20	73.0		2.65	1.50	4.5	56.20	119.00	2.5	21.00	0.90	3.02
72	JL72	2.50	76.5	10.2	6.4	3.0	21.20	75.0	2.65	1.50	4.5	58.00	119.20	2.5	21.00	0.90	3.01			
75	JL75	2.50	79.5	10.2	6.6	3.0	22.60	78.0	2.65	1.50	4.5	60.00	118.00	2.5	21.00	0.90	2.99			
80	JL80	2.50	+0.00 -0.08	85.5	+1.30 -0.54	10.2	7.0	3.0	25.00	83.5	+0.35 -0.00	2.65	1.75	5.3	74.60	120.90	2.5	21.80	0.90	3.24
90	JL90	3.00		95.5		12.2	7.7	3.5	35.50	93.5		3.15	1.75	5.3	84.00	199.00	3.0	31.40	0.90	3.47
100	JL100	3.00		105.5		12.2	8.5	3.5	43.50	103.5		3.15	1.75	5.3	93.10	188.00	3.0	30.80	0.90	3.42

 Part Number Référence Teile Nummer Referencia de pieza	 Tolerance Tolérance Toleranz Tolerancia	 Weight Masse Gewicht Peso	 Ring Anneau/Circlips Ring Anillo	 Groove Gorge Nut Ranura
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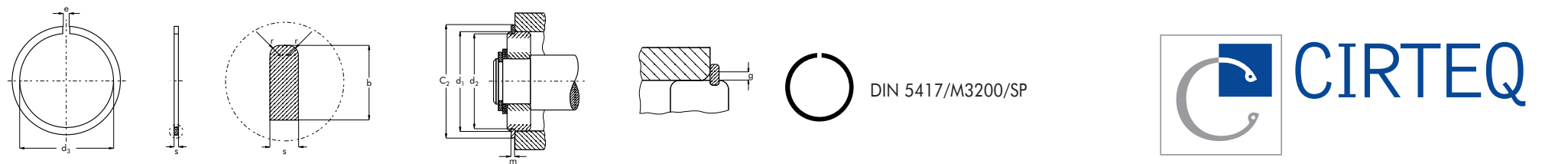
984L/JL



Circlips pour roulements à rouleaux Sicherungsringe für Rollenlager Anillos para cojinetes de rodillos SNAP RINGS FOR ROLLER BEARINGS

d ₁	DIN5417 M3200 SP	○									⌋										
		s	Δ	b	Δ	d ₃	Δ	e ≈	r min.	(kg/1000)	d ₂	Δ	m	Δ	C ₂	FN (kN)	FR (kN)	g	FRg (kN)	K (kN/mm)	^{Nobl.} x1000 (rpm)
30	SP30	1.12		3.25		27.4		3	0.4	2.8	28.17		1.35		34.7	13.7	16.6	2.0	2.91	35.1	16
32	SP32	1.12		3.25		29.4		3	0.4	3.0	30.15		1.35		36.7	14.6	14.6	2.0	2.57	30.0	13
35	SP35	1.12		3.25		32.4	+0.4	3	0.4	3.2	33.17		1.35		39.7	16.0	13.4	2.0	2.42	28.0	11
37	SP37	1.12		3.25		34.0		3	0.4	3.4	34.77		1.35		41.3	20.7	13.6	2.0	2.45	26.6	10
40	SP40	1.12		3.25		37.3		3	0.4	3.6	38.10		1.35		44.6	19.3	13.5	2.0	2.50	24.2	8
42	SP42	1.12		3.25		38.9		3	0.4	3.8	39.75		1.35		46.3	23.5	12.9	2.0	2.39	23.4	7
44	SP44	1.12		3.25		40.9		3	0.4	4.0	41.75		1.35		48.3	24.6	12.4	2.0	2.29	22.6	7
47	SP47	1.12		4.04		43.7	+0.5	4	0.4	5.3	44.60	-0.25	1.35		52.7	28.8	12.1	2.0	2.29	22.4	7
50	SP50	1.12		4.04		46.6		4	0.4	5.8	47.60		1.35		55.7	30.6	13.3	2.0	2.60	24.3	6
52	SP52	1.12		4.04		48.8		4	0.4	5.9	49.73		1.35		57.9	31.6	12.8	2.5	2.01	23.4	6
55	SP55	1.12		4.04		51.7		4	0.4	6.2	52.60		1.35		60.7	33.8	11.8	2.5	1.90	22.0	5
56	SP56	1.12		4.04		52.4		4	0.4	6.5	53.60		1.35		61.7	34.5	12.1	2.5	1.95	21.6	5
58	SP58	1.12		4.04		54.4		4	0.4	6.7	55.60		1.35		63.7	35.6	11.5	2.5	1.89	21.0	5
62	SP62	1.70		4.04		58.2		4	0.6	10.5	59.61		1.90		67.7	38.1	37.6	2.5	6.18	68.6	5
65	SP65	1.70		4.04		61.2		4	0.6	11.0	62.60		1.90		70.7	40.0	34.9	2.5	5.89	65.3	4
68	SP68	1.70	-0.1	4.85	-0.15	63.4		5	0.6	12.6	64.82		1.90		74.6	55.5	40.9	2.5	7.06	75.0	4
72	SP72	1.70		4.85		67.4	+0.8	5	0.6	14.7	68.81		1.90	+0.3	78.6	59.0	38.9	2.5	6.17	71.3	4
75	SP75	1.70		4.85		70.4		5	0.6	15.3	71.83		1.90		81.6	61.5	36.6	2.5	6.46	68.6	3
80	SP80	1.70		4.85		75.4		5	0.6	16.3	76.81		1.90		86.6	65.7	34.8	3.0	5.25	64.0	3
85	SP85	1.70		4.85		80.4		5	0.6	17.5	81.81		1.90		91.6	70.0	33.5	3.0	5.16	60.5	3
90	SP90	2.46		4.85		85.4		5	0.7	26.6	86.79		2.70		96.5	74.0	93.9	3.0	14.80	174.0	2
95	SP95	2.46		4.85		90.4		5	0.7	28.2	91.82		2.70		101.6	76.3	86.8	3.5	12.00	164.0	2
100	SP100	2.46		4.85		95.2		5	0.7	29.2	96.80		2.70		106.5	82.5	80.8	3.5	11.40	155.0	2
110	SP110	2.46		4.85		105.2		5	0.7	32.8	106.81		2.70		116.6	90.7	71.2	3.5	10.40	142.0	1
115	SP115	2.46		4.85		110.2	+1.0	5	0.7	34.4	111.81	-0.50	2.70		121.6	97.7	66.6	3.5	10.00	136.0	1
120	SP120	2.82		7.21		113.6		7	0.7	60.6	115.21		3.10		129.7	143.0	140.0	3.5	21.30	291.0	2
125	SP125	2.82		7.21		118.6		7	0.7	63.0	120.22		3.10		134.7	155.0	132.0	4.0	17.90	279.0	2
130	SP130	2.82		7.21		123.6		7	0.7	65.6	125.22		3.10		139.7	166.0	124.7	4.0	17.30	269.0	1
140	SP140	2.82		7.21		133.0		7	0.7	70.6	135.23		3.10		149.7	180.0	111.6	4.0	16.00	249.0	1
145	SP145	2.82		7.21		138.0		7	0.7	73.0	140.23		3.10		154.7	186.0	106.4	4.0	15.50	242.0	1
150	SP150	2.82		7.21		142.9	+1.6	7	0.7	77.2	145.24		3.10		159.7	193.0	101.5	4.0	15.00	234.0	1
160	SP160	2.82		7.21		152.9		7	0.7	81.0	155.22		3.10		169.7	206.0	92.0	4.0	14.10	220.0	1
170	SP170	3.10		9.60		161.3		10	0.7	122.0	163.65		3.50		182.9	283.0	148.0	5.0	18.70	363.0	1
180	SP180	3.10		9.60		171.2		10	0.7	128.0	173.66		3.50		192.9	292.0	135.0	5.0	17.70	344.0	1
190	SP190	3.10		9.60		181.0	+1.8	10	0.7	139.0	183.64		3.50		202.9	311.0	124.0	5.0	16.70	324.0	1

Part Number
Référence Teile Nummer Referencia de pieza
 Tolerance
Tolérance Toleranz Tolerancia
 Weight
Masse Gewicht Peso
 Ring
Anneau/Circlips Ring Anillo
 Groove
Gorge Nut Ranura



d ₁	DIN5417 M3200 SP	○									⊂				D A T A						
		s	Δ	b	Δ	d ₃	Δ	e ≈	r min.	$\frac{\Delta}{(kg/1000)}$	d ₂	Δ	m	Δ	C ₂	FN (kN)	FR (kN)	g	FRg (kN)	K (kN/mm)	nabl. ×1000 (rpm)
200	SP200	3.10	-0.15	9.60	+1.8	191.0	10	0.7	148.0	193.65	+0.3	3.50	-0.50	212.9	336.0	116.0	5.0	16.00	311.0	1.0	
210	SP210	3.10		9.60		200.9		1.2	156.0	203.60		3.50		222.8	356.0	106.0	6.0	12.70	295.0	1.0	
215	SP215	3.10		9.60		205.9		1.2	160.0	208.60		3.50		227.8	376.0	103.0	6.0	12.40	288.0	1.0	
225	SP225	3.50		10.00		214.3		1.2	196.0	217.00		4.50		237.0	462.0	144.0	6.0	17.90	416.0	1.0	
230	SP230	3.50		10.00		219.2		1.2	200.0	222.00		4.50		242.0	473.0	139.1	6.0	17.40	406.0	1.0	
240	SP240	3.50	-0.1	10.00	+2.5	229.2	10	1.2	209.0	232.00	+0.4	4.50	-0.50	252.0	495.0	130.0	6.0	16.80	390.0	0.5	
250	SP250	3.50		10.00		239.2		1.2	220.0	242.00		4.50		262.0	514.0	122.0	6.0	16.10	374.0	0.5	
260	SP260	3.50		10.00		247.5		1.2	230.0	252.00		4.50		272.0	536.0	114.0	6.0	15.50	360.0	0.5	
270	SP270	3.50		10.00		257.5		1.2	240.0	262.00		4.50		282.0	556.0	107.0	6.0	14.90	347.0	0.5	
280	SP280	3.50		10.00		267.5		1.2	250.0	272.00		4.50		292.0	578.0	101.0	6.0	14.40	335.0	0.5	
290	SP290	3.50	-0.2	10.00	-0.30	277.5	10	1.2	260.0	282.00	+0.5	4.50	-0.50	302.0	598.0	95.4	6.0	13.90	323.0	0.4	
300	SP300	4.50		12.00		284.5		1.5	400.0	290.00		5.50		314.0	694.0	230.0	7.0	34.20	795.0	0.6	
310	SP310	4.50		12.00		294.0		1.5	412.0	300.00		5.50		324.0	800.0	218.0	7.0	28.40	770.0	0.5	
320	SP320	4.50		12.00		304.0		1.5	420.0	310.00		5.50		334.0	824.0	207.0	7.0	27.60	747.0	0.5	
340	SP340	4.50		12.00		324.0		1.5	446.0	330.00		5.50		354.0	875.0	187.0	7.0	26.00	702.0	0.4	
360	SP360	4.50	-0.2	12.00	+3.0	343.0	10	1.5	475.0	350.00	+0.5	5.50	-0.50	374.0	930.0	169.0	7.0	24.50	664.0	0.4	
370	SP370	4.50		12.00		353.0		1.5	485.0	360.00		5.50		384.0	955.0	162.0	7.0	23.80	646.0	0.4	
380	SP380	4.50		12.00		363.0		1.5	500.0	370.00		5.50		394.0	995.0	154.0	7.0	23.20	629.0	0.4	
400	SP400	4.50		12.00		383.0		1.5	525.0	390.00		5.50		414.0	1040.0	144.0	7.0	22.10	598.0	0.3	

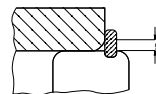
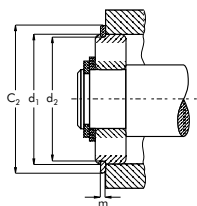
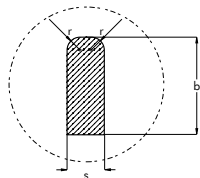
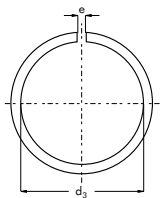
Part Number
Référéncie Teile Nummer Referencia de pieza

Tolerance
Tolérance Toleranz Tolerancia

Weight
Masse Gewicht Peso

Ring
Anneau/Circlips Ring Anillo

Groove
Gorge Nut Ranura



DIN 5417/M3200/SP

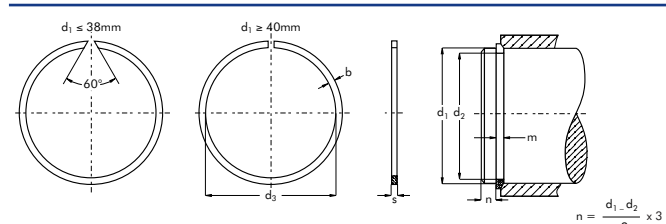






CIRTEQ

Anneaux pour arbres Sprengringe für Wellen Anillos para ejes SNAP RINGS FOR SHAFTS

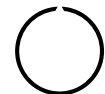
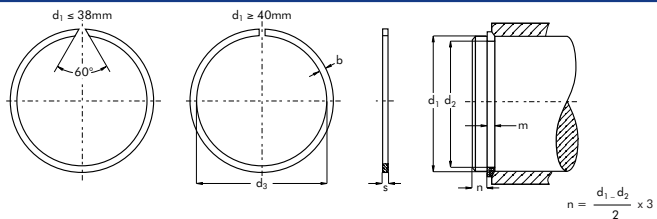
d ₁	M2400 SW	○				⌋			D A T A			d ₁	M2400 SW	○				⌋			D A T A		
		s (-0.1)	b (-0.1)	d ₃ max.	(kg/1000)	d ₂	Δ	m min.	FN (kN)	FR (kN)	n _{det.} x1000 (rpm)			s (-0.1)	b (-0.1)	d ₃ max.	(kg/1000)	d ₂	Δ	m min.	FN (kN)	FR (kN)	n _{det.} x1000 (rpm)
4	SW4	0.5	0.80	3.7	0.02	3.8	-0.09	0.6	0.20	1.25	275	48	SW48	1.5	2.30	45.8	3.60	46.5	-0.16	1.6	18.70	18.60	5.0
5	SW5	0.5	1.00	4.7	0.05	4.8		0.6	0.26	1.30	192	50	SW50	1.5	2.30	47.8	3.73	48.5		1.6	19.50	18.10	5.0
6	SW6	0.7	1.10	5.6	0.09	5.7		0.8	0.46	3.50	141	52	SW52	1.5	2.30	49.8	3.92	50.5		1.6	20.20	17.70	4.0
7	SW7	0.7	1.20	6.5	0.12	6.7		0.8	0.54	3.50	134	55	SW55	1.5	2.30	52.6	4.11	53.5		1.6	21.00	16.50	4.0
8	SW8	1.0	1.30	7.4	0.20	7.6		1.1	0.82	11.30	108	58	SW58	1.5	2.30	55.6	4.40	56.5		1.6	22.50	15.70	4.0
9	SW9	1.0	1.30	8.4	0.24	8.6		1.1	0.92	10.60	80	60	SW60	1.5	2.30	57.6	4.55	58.5		1.6	23.20	15.40	4.0
10	SW10	1.0	1.30	9.4	0.25	9.6		1.1	1.03	10.30	68	63	SW63	1.5	2.30	60.6	4.58	61.5		1.6	24.40	14.70	3.0
11	SW11	1.0	1.30	10.2	0.29	10.5		1.1	1.40	9.80	64	65	SW65	1.5	2.30	62.6	4.64	63.5		1.6	25.20	14.20	3.0
12	SW12	1.0	1.30	11.2	0.30	11.5	1.1	1.53	9.30	53	68	SW68	2.0	2.80	65.4	8.59	66.2	2.2	31.70	39.60	3.0		
13	SW13	1.0	1.30	12.2	0.34	12.5	1.1	1.70	8.90	43	70	SW70	2.0	2.80	67.4	8.71	68.2	2.2	32.50	38.40	3.0		
14	SW14	1.2	1.50	13.1	0.50	13.5	-0.11	1.3	1.80	17.00	45	72	SW72	2.0	2.80	69.4	8.80	70.2	2.2	33.70	37.60	3.0	
15	SW15	1.2	1.75	14.0	0.66	14.4		1.3	2.30	18.70	44	73	SW73	2.0	2.80	70.4	8.90	71.2	2.2	34.00	37.00	3.0	
16	SW16	1.2	1.75	15.0	0.69	15.4		1.3	2.47	17.70	38	75	SW75	2.0	2.80	72.4	9.32	73.2	2.2	35.00	36.20	2.0	
17	SW17	1.2	1.75	16.0	0.72	16.4		1.3	2.63	17.00	34	80	SW80	2.0	2.80	77.4	9.67	78.2	2.2	37.40	34.20	2.0	
18	SW18	1.2	1.75	17.0	0.75	17.4		1.3	2.78	16.20	30	85	SW85	2.5	3.40	82.0	16.00	83.0	2.7	44.00	72.00	2.0	
19	SW19	1.2	1.75	17.9	0.80	18.4		1.3	2.94	15.60	29	90	SW90	2.5	3.40	87.0	16.00	88.0	2.7	46.50	66.30	2.0	
20	SW20	1.2	1.75	18.7	0.84	19.2	1.3	4.10	15.00	26	95	SW95	2.5	3.40	92.0	18.20	93.0	2.7	49.20	61.80	2.0		
21	SW21	1.2	1.75	19.7	0.87	20.2	1.3	4.30	14.60	23	100	SW100	2.5	3.40	97.0	18.90	98.0	2.7	51.90	57.30	2.0		
22	SW22	1.2	1.75	20.7	0.91	21.2	1.3	4.50	14.00	21	105	SW105	2.5	3.40	101.7	20.70	102.7	2.7	65.00	54.00	2.0		
24	SW24	1.2	1.75	22.5	0.99	23.0	1.3	6.15	13.30	18	110	SW110	2.5	3.40	106.6	20.90	107.7	2.7	69.00	50.40	1.0		
25	SW25	1.2	1.75	23.5	1.00	24.0	-0.13	1.3	6.40	12.80	16	115	SW115	2.5	3.40	111.6	22.10	112.7	2.7	71.00	47.20	1.0	
26	SW26	1.2	1.75	24.5	1.10	25.0		1.3	6.65	12.50	15	120	SW120	2.5	3.40	116.5	24.10	117.7	2.7	75.00	44.80	1.0	
27	SW27	1.5	2.30	25.5	2.00	26.0		1.6	6.95	30.00	16	125	SW125	2.5	3.40	121.5	25.10	122.7	2.7	78.50	41.80	1.0	
28	SW28	1.5	2.30	26.5	2.11	27.0		1.6	7.20	29.30	15	130	SW130	2.5	3.40	126.4	26.60	127.7	2.7	84.00	39.60	1.0	
29	SW29	1.5	2.30	27.5	2.20	28.0		1.6	7.45	28.20	14	135	SW135	2.5	4.00	131.1	30.20	132.4	2.7	87.00	44.00	1.0	
30	SW30	1.5	2.30	28.5	2.33	29.0	-0.16	1.6	7.70	27.50	13	140	SW140	2.5	4.00	136.0	31.10	137.4	2.7	91.50	41.60	1.0	
32	SW32	1.5	2.30	30.2	2.41	30.8		1.6	9.90	26.50	13	145	SW145	2.5	4.00	141.0	32.60	142.4	2.7	95.00	39.60	1.0	
35	SW35	1.5	2.30	33.2	2.51	33.8		1.6	10.80	24.40	11	150	SW150	2.5	4.00	145.9	32.80	147.4	2.7	98.00	37.50	1.0	
37	SW37	1.5	2.30	35.2	2.72	35.8		1.6	11.30	23.50	9	155	SW155	2.5	4.00	150.9	34.70	154.4	2.7	100.00	36.30	1.0	
38	SW38	1.5	2.30	36.2	2.83	36.8		1.6	11.60	22.70	9	160	SW160	2.5	4.00	155.8	36.60	157.4	2.7	103.00	35.60	1.0	
40	SW40	1.5	2.30	37.8	2.91	38.5	-0.16	1.6	15.50	22.00	8	165	SW165	2.5	4.00	160.8	37.40	162.4	2.7	106.00	34.20	0.5	
42	SW42	1.5	2.30	39.8	3.10	40.5		1.6	16.20	21.40	7	170	SW170	2.5	4.00	165.7	38.50	167.4	2.7	108.00	33.50	0.5	
43	SW43	1.5	2.30	40.8	3.25	41.5		1.6	16.50	21.10	7	175	SW175	2.5	4.00	170.7	39.40	172.4	2.7	117.00	32.20	0.4	
45	SW45	1.5	2.30	42.8	3.39	43.5		1.6	17.30	20.60	6	180	SW180	3.0	5.00	175.2	61.20	177.0	3.2	140.00	67.50	1.0	
47	SW47	1.5	2.30	44.8	3.48	45.5		1.6	18.20	19.20	6	185	SW185	3.0	5.00	180.2	63.90	182.0	3.2	144.00	66.20	1.0	

Part Number Réference Teile Nummer Referencia de pieza
 Tolerance Tolérance Toleranz Tolerancia
 Weight Masse Gewicht Peso
 Ring Anneau/Circlips Ring Anillo
 Groove Gorge Nut Ranura



d ₁	M2400 SW	○				H			D A T A			d ₁	M2400 SW	○				H			D A T A		
		s (-0.1)	b (-0.1)	d ₃ max.	 (kg/1000)	d ₂	 Δ	m min.	FN (kN)	FR (kN)	n _{det.} x1000 (rpm)			s (-0.1)	b (-0.1)	d ₃ max.	 (kg/1000)	d ₂	 Δ	m min.	FN (kN)	FR (kN)	n _{det.} x1000 (rpm)
190	SW190	3.0	5.0	185.1	65.90	187.0	-0.29	3.2	148.0	64.0	1.0	300	SW300	4.0	7.5	292.1	214.20	295.0	-0.32	4.2	390.0	145.0	0.3
195	SW195	3.0	5.0	190.1	67.50	192.0		3.2	152.0	62.6	1.0	305	SW305	4.0	7.5	297.1	219.40	300.0		4.2	396.0	142.0	0.3
200	SW200	3.0	5.0	196.0	68.40	197.0		3.2	156.0	61.4	0.5	310	SW310	4.0	7.5	302.0	223.10	305.0		4.2	402.0	139.0	0.3
210	SW210	3.0	5.0	204.9	72.00	207.0		3.2	164.0	58.0	0.5	320	SW320	4.0	7.5	311.9	225.30	315.0		4.2	416.0	137.0	0.3
220	SW220	3.0	5.0	214.8	76.30	217.0		3.2	171.0	55.5	0.4	330	SW330	4.0	7.5	321.8	228.60	325.0		4.2	428.0	132.0	0.2
230	SW230	3.0	5.0	224.7	79.80	227.0		3.2	180.0	53.0	0.3	340	SW340	4.0	7.5	331.7	239.30	335.0		4.2	442.0	129.0	0.2
240	SW240	3.0	5.0	234.6	81.70	237.0	-0.36	3.2	187.0	51.0	0.3	350	SW350	4.0	7.5	341.6	251.20	345.0	4.2	455.0	123.0	0.2	
250	SW250	3.0	5.0	244.5	86.50	247.0		3.2	195.0	49.0	0.3	360	SW360	4.0	7.5	351.5	253.10	355.0	4.2	468.0	120.0	0.2	
260	SW260	4.0	7.5	252.4	179.00	255.0		4.2	338.0	168.0	0.4	370	SW370	4.0	7.5	361.5	259.20	365.0	4.2	482.0	117.0	0.2	
265	SW265	4.0	7.5	257.4	185.20	260.0		4.2	344.0	165.0	0.4	380	SW380	4.0	7.5	371.4	265.80	375.0	4.2	494.0	115.0	0.2	
270	SW270	4.0	7.5	262.3	197.70	265.0		-0.32	4.2	350.0	162.0	0.4	390	SW390	4.0	7.5	381.3	273.90	385.0	4.2	507.0	112.0	0.2
280	SW280	4.0	7.5	272.2	198.70	275.0			4.2	362.0	155.0	0.4	400	SW400	4.0	7.5	391.2	281.10	395.0	4.2	521.0	109.0	0.1
285	SW285	4.0	7.5	277.2	199.50	280.0	4.2		370.0	151.0	0.3	420	SW420	4.5	12.0	410.0	531.00	415.0	4.8	547.0	133.0	0.3	
290	SW290	4.0	7.5	282.1	205.30	285.0	4.2		377.0	148.0	0.3	460	SW460	4.5	12.0	449.5	582.00	455.0	4.8	600.0	126.0	0.2	

	Part Number Référence Teile Nummer Referencia de pieza		Tolerance Tolérance Toleranz Tolerancia		Weight Masse Gewicht Peso		Ring Anneau/Circlips Ring Anillo		Groove Gorge Nut Ranura
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





M2400/SW

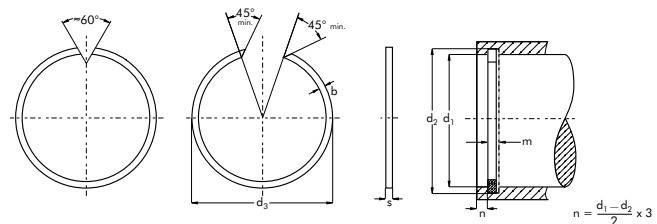




CIRTEQ

Anneaux pour alésages Sprengringe für Bohrungen Anillos para agujeros SNAP RINGS FOR BORES

d ₁	M2300 SB	○				⊕			D A T A		d ₁	M2300 SB	○				⊕			D A T A	
		s (-0.1)	b (-0.1)	d ₃ min.	 (kg/1000)	d ₂	 Δ	m min.	FN (kN)	FR (kN)			s (-0.1)	b (-0.1)	d ₃ min.	 (kg/1000)	d ₂	 Δ	m min.	FN (kN)	FR (kN)
7	SB7	0.8	1.00	7.5	0.09	7.3	+0.09	0.9	0.55	3.30	44	SB44	1.5	2.3	45.8	3.11	45.2	+0.16	1.6	14.00	19.30
8	SB8	0.8	1.00	8.5	0.10	8.3		0.9	0.65	3.25	45	SB45	1.5	2.3	46.8	3.25	46.2		1.6	14.25	19.00
9	SB9	0.8	1.10	9.5	0.13	9.3		0.9	0.70	3.20	46	SB46	1.5	2.3	47.8	3.28	47.2		1.6	14.65	18.40
10	SB10	0.8	1.20	10.6	0.15	10.4		0.9	1.05	3.15	47	SB47	1.5	2.3	48.8	3.29	48.2		1.6	14.90	18.10
11	SB11	1.0	1.30	11.6	0.21	11.4	1.1	1.15	9.15	48	SB48	1.5	2.3	49.8	3.45	49.2	1.6	15.30	17.60		
12	SB12	1.0	1.30	12.7	0.25	12.4	+0.11	1.1	1.30	8.90	50	SB50	1.5	2.3	51.8	3.57	51.2	+0.19	1.6	15.80	17.20
13	SB13	1.0	1.30	13.8	0.28	13.5		1.1	1.75	8.80	52	SB52	1.5	2.3	54.3	3.58	53.5		1.6	20.65	16.30
14	SB14	1.0	1.30	14.8	0.31	14.5		1.1	1.90	8.20	53	SB53	1.5	2.3	55.3	3.82	54.5		1.6	21.05	16.10
15	SB15	1.0	1.30	15.8	0.34	15.5		1.1	2.00	7.70	55	SB55	1.5	2.3	57.3	3.93	56.5		1.6	21.80	15.70
16	SB16	1.2	1.60	16.8	0.53	16.5	1.3	2.10	15.50	57	SB57	1.5	2.3	59.3	4.12	58.5	1.6	22.60	15.30		
17	SB17	1.2	1.70	17.8	0.55	17.5	+0.13	1.3	2.25	15.40	58	SB58	1.5	2.3	60.3	4.13	59.5	+0.22	1.6	23.00	15.00
18	SB18	1.2	1.75	18.9	0.68	18.5		1.3	2.40	15.10	60	SB60	1.5	2.3	62.3	4.28	61.5		1.6	23.80	14.60
19	SB19	1.2	1.75	19.9	0.72	19.6		1.3	3.00	14.80	62	SB62	1.5	2.3	64.3	4.42	63.5		1.6	24.60	14.20
20	SB20	1.2	1.75	21.0	0.76	20.6		1.3	3.20	14.20	63	SB63	1.5	2.3	65.3	4.50	64.5		1.6	25.00	13.70
21	SB21	1.2	1.75	22.0	0.79	21.6	1.3	3.35	13.70	65	SB65	1.5	2.3	67.3	4.72	66.5	1.6	25.70	13.60		
22	SB22	1.2	1.75	23.0	0.81	22.6	+0.16	1.3	3.50	13.10	68	SB68	1.5	2.3	70.3	4.90	69.5	+0.27	1.6	26.90	12.90
23	SB23	1.2	1.75	24.0	0.88	23.6		1.3	3.65	12.80	70	SB70	1.5	2.3	72.3	4.93	71.5		1.6	27.70	12.80
24	SB24	1.2	1.75	25.2	0.90	24.8		1.3	5.10	12.50	72	SB72	2.0	2.8	74.6	8.49	73.8		2.2	34.20	35.70
25	SB25	1.2	1.75	26.2	0.91	25.8		1.3	5.30	12.00	73	SB73	2.0	2.8	75.6	8.52	74.8		2.2	34.70	35.30
26	SB26	1.2	1.75	27.2	0.98	26.8	1.3	5.50	11.50	74	SB74	2.0	2.8	76.6	8.60	75.8	2.2	35.30	34.80		
27	SB27	1.2	1.75	28.2	1.11	27.8	+0.22	1.3	5.70	11.30	76	SB76	2.0	2.8	78.6	8.89	77.8	+0.34	2.2	36.20	33.80
28	SB28	1.2	1.75	29.2	1.13	28.8		1.3	5.95	11.00	78	SB78	2.0	2.8	80.6	9.05	79.8		2.2	37.10	32.60
29	SB29	1.2	1.75	30.2	1.15	29.8		1.3	6.15	10.90	79	SB79	2.0	2.8	81.6	9.07	80.8		2.2	37.60	32.00
30	SB30	1.5	2.30	31.4	2.00	31.0		1.6	8.00	26.00	80	SB80	2.0	2.8	82.6	9.22	81.8		2.2	38.00	31.40
31	SB31	1.5	2.30	32.4	2.03	32.0	1.6	8.25	25.60	81	SB81	2.0	2.8	83.6	9.31	82.8	2.2	38.60	31.30		
32	SB32	1.5	2.30	33.4	2.11	33.0	+0.27	1.6	8.50	25.00	82	SB82	2.0	2.8	84.6	9.45	83.8	+0.40	2.2	39.00	30.70
33	SB33	1.5	2.30	34.4	2.26	34.0		1.6	8.75	24.60	83	SB83	2.0	2.8	85.6	9.63	84.8		2.2	39.50	30.10
34	SB34	1.5	2.30	35.4	2.34	35.0		1.6	9.00	23.80	85	SB85	2.0	2.8	87.6	9.81	86.8		2.2	40.40	29.60
35	SB35	1.5	2.30	36.4	2.36	36.0		1.6	9.30	23.30	86	SB86	2.0	2.8	88.6	9.91	87.8		2.2	40.90	29.00
37	SB37	1.5	2.30	38.8	2.53	38.2	1.6	11.75	22.00	88	SB88	2.5	3.4	91.0	15.40	90.0	2.7	46.50	65.80		
38	SB38	1.5	2.30	39.8	2.61	39.2	+0.34	1.6	12.15	21.60	90	SB90	2.5	3.4	93.0	15.60	92.0	+0.46	2.7	47.60	63.50
39	SB39	1.5	2.30	40.8	2.67	40.2		1.6	12.40	21.00	92	SB92	2.5	3.4	95.0	16.60	94.0		2.7	48.60	62.00
40	SB40	1.5	2.30	41.8	2.80	41.2		1.6	12.70	20.70	93	SB93	2.5	3.4	96.0	16.80	95.0		2.7	49.20	61.80
42	SB42	1.5	2.30	43.8	2.92	43.2		1.6	13.30	19.80	95	SB95	2.5	3.4	98.0	16.90	97.0		2.7	50.20	59.30
43	SB43	1.5	2.30	44.8	3.03	44.2	1.6	13.70	19.60	97	SB97	2.5	3.4	100.0	17.10	99.0	2.7	51.30	58.20		

 **Part Number** Référence Teile Nummer Referencia de pieza
  **Tolerance** Tolérance Toleranz Tolerancia
  **Weight** Masse Gewicht Peso
  **Ring** Anneau/Circlips Ring Anillo
  **Groove** Gorge Nut Ranura



d ₁	M2300 SB	○				⊕			D A T A		d ₁	M2300 SB	○				⊕			D A T A		
		s (-0.1)	b (-0.1)	d ₃ min.	 (kg/1000)	d ₂	Δ	m min.	FN (kN)	FR (kN)			s (-0.1)	b (-0.1)	d ₃ min.	 (kg/1000)	d ₂	Δ	m min.	FN (kN)	FR (kN)	
98	SB98	2.5	3.4	101.0	17.5	100.0	+0.22	2.7	51.8	56.6	200	SB200	3.0	5.0	205.0	64.5	203.0	+0.29	3.2	158.0	59.0	
100	SB100	2.5	3.4	103.0	17.9	102.0		2.7	52.8	55.5	205	SB205	3.0	5.0	210.0	66.4	208.0		3.2	162.0	57.8	
102	SB102	2.5	3.4	105.3	18.4	104.3		2.7	62.0	53.6	210	SB210	3.0	5.0	215.1	68.8	213.0		3.2	166.0	56.8	
103	SB103	2.5	3.4	106.3	18.5	105.3		2.7	62.6	53.2	215	SB215	3.0	5.0	220.1	69.5	218.0		3.2	169.0	55.5	
105	SB105	2.5	3.4	108.3	18.7	107.3		2.7	63.8	51.8	220	SB220	3.0	5.0	225.2	72.4	223.0		3.2	173.0	54.4	
107	SB107	2.5	3.4	110.3	19.1	109.3	+0.22	2.7	65.0	50.7	225	SB225	3.0	5.0	230.2	72.9	228.0	+0.32	4.2	177.0	53.3	
108	SB108	2.5	3.4	111.3	19.3	110.3		2.7	65.6	50.5	230	SB230	3.0	5.0	235.3	75.2	233.0		4.2	181.0	52.0	
110	SB110	2.5	3.4	113.4	19.8	112.3		2.7	66.8	49.0	240	SB240	3.0	5.0	245.4	80.9	243.0		4.2	189.0	49.6	
112	SB112	2.5	3.4	115.4	20.3	114.3		2.7	68.0	47.0	250	SB250	3.0	5.0	255.5	84.2	253.0		4.2	197.0	48.5	
113	SB113	2.5	3.4	116.4	20.5	115.3		2.7	68.6	46.5	260	SB260	4.0	7.5	267.6	165.0	265.0		4.2	343.0	162.0	
115	SB115	2.5	3.4	118.4	20.6	117.3	+0.22	2.7	69.4	45.5	270	SB270	4.0	7.5	277.7	174.0	275.0	+0.32	4.2	356.0	157.0	
117	SB117	2.5	3.4	120.4	20.8	119.3		2.7	71.0	44.6	280	SB280	4.0	7.5	287.8	184.0	285.0		4.2	369.0	152.0	
118	SB118	2.5	3.4	121.4	21.1	120.3		2.7	71.7	44.2	290	SB290	4.0	7.5	297.9	190.0	295.0		4.2	382.0	144.0	
120	SB120	2.5	3.4	123.5	21.4	122.3		2.7	72.8	43.3	300	SB300	4.0	7.5	307.9	196.0	305.0		4.2	395.0	140.0	
123	SB123	2.5	3.4	126.5	22.0	125.3		2.7	74.7	41.2	310	SB310	4.0	7.5	318.0	200.0	315.0		4.2	408.0	136.0	
125	SB125	2.5	3.4	128.5	22.5	127.3	+0.25	2.7	75.9	40.2	320	SB320	4.0	7.5	328.1	203.0	325.0	+0.36	4.2	422.0	132.0	
127	SB127	2.5	3.4	130.5	23.0	129.3		2.7	77.0	39.8	325	SB325	4.0	7.5	333.1	206.0	330.0		4.2	428.0	129.0	
130	SB130	2.5	3.4	133.6	23.4	132.3		2.7	78.9	38.2	330	SB330	4.0	7.5	338.2	209.0	335.0		4.2	435.0	126.0	
133	SB133	2.5	3.4	136.6	24.4	135.3		2.7	80.7	36.8	340	SB340	4.0	7.5	348.3	219.0	345.0		4.2	448.0	123.0	
135	SB135	2.5	3.4	138.6	25.0	137.3		2.7	81.9	36.6	350	SB350	4.0	7.5	358.4	229.0	355.0		4.2	452.0	121.0	
137	SB137	2.5	3.4	140.6	25.3	139.3	+0.25	2.7	83.0	35.6	355	SB355	4.0	7.5	363.4	231.0	360.0	+0.36	4.2	467.0	121.0	
140	SB140	2.5	4.0	144.0	29.3	142.6		2.7	96.1	40.2	360	SB360	4.0	7.5	368.5	233.0	365.0		4.2	487.0	119.0	
143	SB143	2.5	4.0	147.0	30.1	145.6		2.7	98.1	38.6	370	SB370	4.0	7.5	378.5	236.0	375.0		4.2	493.0	116.0	
150	SB150	2.5	4.0	154.1	31.9	152.6		2.7	102.0	36.2	375	SB375	4.0	7.5	383.5	240.0	380.0		4.2	500.0	112.0	
153	SB153	2.5	4.0	157.1	32.6	155.6		2.7	104.0	35.6	380	SB380	4.0	7.5	388.6	242.0	385.0		4.2	513.0	111.0	
160	SB160	2.5	4.0	164.2	34.4	162.6	+0.25	2.7	108.0	34.6	390	SB390	4.0	7.5	398.7	253.0	395.0	+0.40	4.2	520.0	110.0	
163	SB163	2.5	4.0	167.2	34.6	165.6		2.7	111.0	33.5	395	SB395	4.0	7.5	403.7	257.0	400.0		4.2	526.0	109.0	
165	SB165	2.5	4.0	169.2	34.9	167.6		2.7	113.0	32.8	400	SB400	4.0	7.5	408.9	260.0	405.0		4.2	529.0	106.0	
170	SB170	2.5	4.0	174.3	36.2	172.6		2.7	116.0	32.0	410	SB410	4.0	7.5	419.0	266.0	415.0		4.2	546.0	105.0	
173	SB173	2.5	4.0	177.3	37.1	175.6		2.7	118.0	32.0	415	SB415	4.0	7.5	424.0	273.0	420.0		4.2	552.0	104.0	
175	SB175	2.5	4.0	179.3	37.3	177.6	+0.29	2.7	119.0	31.4	420	SB420	4.0	7.5	429.1	277.0	425.0	+0.40	4.2	553.0	101.0	
180	SB180	2.5	4.0	184.5	38.3	182.6		2.7	123.0	30.8	430	SB430	4.0	7.5	439.2	285.0	435.0		4.2	565.0	100.0	
183	SB183	2.5	4.0	187.5	41.0	185.6		2.7	125.0	30.0	440	SB440	4.0	7.5	449.3	294.0	445.0		4.2	578.0	98.0	
190	SB190	3.0	5.0	194.9	61.3	193.0		3.2	150.0	62.8												
195	SB195	3.0	5.0	199.9	61.6	198.0		3.2	154.0	61.5												

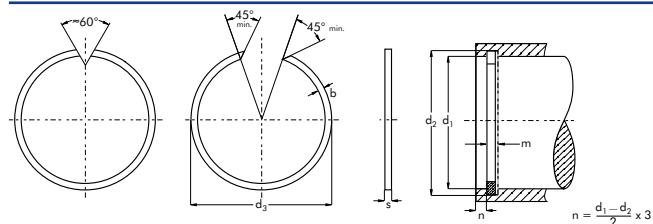
 **Part Number**
 Référence Teile Nummer Referencia de pieza

 **Tolerance**
 Tolérance Toleranz Tolerancia



 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

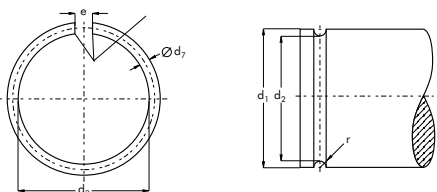
 **Groove**
 Gorge Nut Ranura



Anneaux en fil rond pour arbres Runddrahtringe für Wellen Anillos en alambre circular para ejes ROUND WIRE RINGS FOR SHAFTS



d ₁	DIN7993 A/RW	○					⌋					d ₁	DIN7993 A/RW	○					⌋				
		d ₇	d ₃	Δ	e ≈	 (kg/1000)	d ₂	Δ	r	n _{det.} x 1000 (rpm)	d ₇			d ₃	Δ	e ≈	 (kg/1000)	d ₂	Δ	r	n _{det.} x 1000 (rpm)		
4	RW4	0.8	3.1	-0.2	1	0.044	3.2	±0.05	0.5	175	40	RW40	2.5	37.1	-0.6	4	4.64	37.5	±0.10	1.4	6		
5	RW5	0.8	4.1		1	0.057	4.2		0.5	112	42	RW42	2.5	39.0	4	4.87	39.5	1.4		5			
6	RW6	0.8	5.1	-0.3	1	0.069	5.2	±0.05	0.5	77	45	RW45	2.5	42.0	-0.8	4	5.23	42.5	±0.10	1.4	4		
7	RW7	0.8	6.1		2	0.077	6.2		0.5	57	48	RW48	2.5	45.0		4	5.60	45.5		1.4	4		
8	RW8	0.8	7.1	2	0.090	7.2	0.5	44	50	RW50	2.5	47.0	4	5.83	47.5	1.4	4						
10	RW10	0.8	9.1	-0.4	2	0.115	9.2	±0.10	0.5	28	55	RW55	3.2	51.1	-1.0	4	10.51	51.8	±0.15	1.8	4		
12	RW12	1.0	10.8		3	0.210	11.0		0.6	24	60	RW60	3.2	56.1		4	11.50	56.8		1.8	3		
14	RW14	1.0	12.8	-0.5	3	0.250	13.0	±0.10	0.6	18	65	RW65	3.2	61.1	-1.2	4	12.49	61.8	±0.15	1.8	3		
16	RW16	1.6	14.2		3	0.740	14.4		0.9	22	70	RW70	3.2	66.0		5	13.40	66.8		1.8	2		
18	RW18	1.6	16.2	3	0.830	16.4	0.9	17	75	RW75	3.2	71.0	5	14.39	71.8	1.8	2						
20	RW20	2.0	17.7	-0.6	3	1.450	18.0	±0.10	1.1	18	80	RW80	3.2	76.0	-1.2	5	15.38	76.8	±0.15	1.8	2		
22	RW22	2.0	19.7		3	1.600	20.0		1.1	15	85	RW85	3.2	81.0		5	16.38	81.8		1.8	2		
24	RW24	2.0	21.7	-0.6	3	1.780	22.0	±0.10	1.1	12	90	RW90	3.2	86.0	-1.2	5	17.37	86.8	±0.15	1.8	1		
25	RW25	2.0	22.7		3	1.840	23.0		1.1	11	95	RW95	3.2	91.0		5	18.36	91.8		1.8	1		
26	RW26	2.0	23.7	3	1.910	24.0	1.1	10	100	RW100	3.2	95.8	5	19.31	96.8	1.8	1						
28	RW28	2.0	25.7	-0.6	3	2.070	26.0	±0.10	1.1	9	105	RW105	3.2	100.8	-1.2	5	20.30	101.8	±0.15	1.8	1		
30	RW30	2.0	27.7		3	2.220	28.0		1.1	8	110	RW110	3.2	105.8		5	21.29	106.8		1.8	1		
32	RW32	2.5	29.1	-0.6	4	3.670	29.5	±0.10	1.4	9	115	RW115	3.2	110.8	-1.2	5	22.29	111.8	±0.15	1.8	1		
35	RW35	2.5	32.1		4	3.980	32.5		1.4	7	120	RW120	3.2	115.8		5	23.28	116.8		1.8	1		
38	RW38	2.5	35.1	4	4.400	35.5	1.4	6	125	RW125	3.2	120.8	5	24.27	121.8	1.8	1						

 Part Number Référence Teile Nummer Referencia de pieza	 Tolerance Tolérance Toleranz Tolerancia	 Weight Masse Gewicht Peso	 Ring Anneau/Circlips Ring Anillo	 Groove Gorge Nut Ranura
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○ DIN 7993 A/RW



d ₁	DIN7993 B/RB	○					⊕			d ₁	DIN7993 B/RB	○					⊕		
		d ₇	d ₃	Δ	e	 (kg/1000)	d ₂	Δ	r			d ₇	d ₃	Δ	e	 (kg/1000)	d ₂	Δ	r
7	RB7	0.8	7.9	+0.3	4	0.071	7.8	±0.05	0.5	45	RB45	2.5	48.8	+0.8	16	4.89	47.5	±0.10	1.4
8	RB8	0.8	8.9		4	0.083	8.8		0.5	48	RB48	2.5	51.0		16	5.24	50.5		1.4
10	RB10	0.8	10.9	+0.4	4	0.108	10.8	±0.05	0.5	50	RB50	2.5	53.0	+0.8	16	5.51	52.5	±0.10	1.4
12	RB12	1.0	13.2		6	0.196	13.0		0.6	55	RB55	3.2	58.9		20	9.77	58.2		1.8
14	RB14	1.0	15.2	6	0.234	15.0	0.6	60	RB60	3.2	63.9	20	10.76	63.2	1.8				
16	RB16	1.6	17.8	+0.4	8	0.706	17.6	±0.05	0.9	65	RB65	3.2	68.9	+1.0	20	11.75	68.2	±0.15	1.8
18	RB18	1.6	19.8		8	0.804	19.6		0.9	70	RB70	3.2	74.0		25	12.44	73.2		1.8
20	RB20	2.0	22.3	+0.5	10	1.320	22.0	±0.10	1.1	75	RB75	3.2	79.0	+1.0	25	13.43	78.2	±0.15	1.8
22	RB22	2.0	24.3		10	1.470	24.0		1.1	80	RB80	3.2	84.0		25	14.42	83.2		1.8
24	RB24	2.0	26.3	10	1.630	26.0	1.1	85	RB85	3.2	89.0	25	15.41	88.2	1.8				
25	RB25	2.0	27.3	+0.5	10	1.700	27.0	±0.10	1.1	90	RB90	3.2	94.0	+1.2	25	16.40	93.2	±0.15	1.8
26	RB26	2.0	28.3		10	1.790	28.0		1.1	95	RB95	3.2	99.0		25	17.39	98.2		1.8
28	RB28	2.0	30.3	+0.6	10	1.940	30.0	±0.10	1.1	100	RB100	3.2	104.2	+1.2	32	17.98	103.2	±0.15	1.8
30	RB30	2.0	32.3		10	2.100	32.0		1.1	105	RB105	3.2	109.2		32	18.98	108.2		1.8
32	RB32	2.5	34.9	12	3.470	34.5	1.4	110	RB110	3.2	114.2	32	19.97	113.2	1.8				
35	RB35	2.5	37.9	+0.6	12	3.850	37.5	±0.10	1.4	115	RB115	3.2	119.2	+1.2	32	20.96	118.2	±0.15	1.8
38	RB38	2.5	40.9		12	4.200	40.5		1.4	120	RB120	3.2	124.2		32	21.95	123.2		1.8
40	RB40	2.5	42.9	+0.8	12	4.430	42.5	±0.10	1.4	125	RB125	3.2	129.2	+1.2	32	22.94	128.2	±0.15	1.8
42	RB42	2.5	45.0		16	4.540	44.5		1.4										

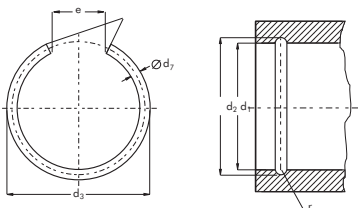
Part Number
Référence Teile Nummer Referencia de pieza

Tolerance
Tolérance Toleranz Tolerancia

Weight
Masse Gewicht Peso

Ring
Anneau/Circlips Ring Anillo

Groove
Gorge Nut Ranura



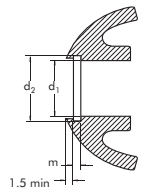
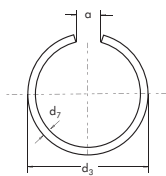
○ DIN 7993 B/RB



Anneaux en fil rond pour axes de pistons Runddrahringe Anillos en alambre circular para pistones ROUND WIRE RINGS FOR PISTONS




d ₁	DIN73130 SC	○				⊞			
		d ₇	Δ	d ₃	Δ	d ₂	Δ	m	Δ
10.0	SC10	0.8	±0.01	11.3	+0.5 -0.0	10.8		0.90	
12.0	SC12	0.8		13.6		12.8		0.90	
14.0	SC14	1.0		16.0		15.1		1.10	
15.0	SC15	1.0	±0.015	17.1		16.1		1.10	
18.0	SC18	1.5		20.7		19.7		1.60	
20.0	SC20	1.5		22.7		21.7		1.60	
22.0	SC22	1.5		24.8		23.7		1.60	
24.0	SC24	1.5	±0.02	27.2	+1.0 -0.0	25.7	+0.2 -0.0	1.60	+0.1 -0.0
25.0	SC25	1.5		28.2		26.7		1.60	
26.0	SC26	1.5		29.4		27.7		1.60	
28.0	SC28	1.5		31.4		29.7		1.60	
30.0	SC30	2.0		34.0		32.4		2.10	
32.0	SC32	2.0	±0.025	36.0	34.4	2.10			
35.0	SC35	2.0		39.0	37.4	2.10			

 Part Number Référence Teile Nummer Referencia de pieza	 Tolerance Tolérance Toleranz Tolerancia	 Weight Masse Gewicht Peso	 Ring Anneau/Circlips Ring Anillo	 Groove Gorge Nut Ranura
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$$a = \begin{matrix} +1.5 \\ -0 \end{matrix} \text{ at } d_1$$



d ₁	Δ	M1455 ZA								D A T A	
			d ₃	d ₄	s		n min.	h ≈	Δ	 (kg/1000)	FRg (N)
1.5	±0.10	ZA1.5	1.40	6.0	0.25	3	1.5	0.6	±0.15	0.040	100
2.0		ZA2.0	1.85	6.5	0.25	3	1.5	0.6		0.042	150
3.0		ZA3.0	2.80	8.0	0.25	4	1.5	0.8		0.066	200
3.5		ZA3.5	3.30	8.2	0.25	4	2.0	0.9		0.104	210
4.0		ZA4.0	3.80	9.0	0.25	4	2.0	0.8		0.078	220
5.0	±0.12	ZA5.0	4.80	10.0	0.25	4	2.0	0.8		0.082	230
6.0		ZA6.0	5.80	11.0	0.25	4	2.5	0.8		0.094	240
7.0		ZA7.0	6.80	12.0	0.25	4	2.5	0.8		0.110	250
8.0		ZA8.0	7.75	13.0	0.25	4	2.5	0.8		0.112	250
9.0		ZA9.0	8.75	14.0	0.30	6	2.5	0.9		0.208	300
10.0	±0.15	ZA10.0	9.75	16.0	0.30	6	3.0	1.1		0.232	320
12.0		ZA12.0	11.70	18.0	0.30	6	3.0	1.1		0.255	350
14.0		ZA14.0	13.70	20.5	0.30	6	3.0	1.2		0.310	400
15.0		ZA15.0	14.60	23.0	0.50	8	3.0	1.6		0.750	600
16.0		ZA16.0	15.60	24.5	0.40	8	3.0	1.4		0.710	700
17.0		±0.15	ZA17.0	16.60	26.0	0.50	8	3.5	1.5	0.950	800
18.0	ZA18.0		17.60	27.0	0.40	8	3.5	1.4	0.810	850	
19.0	ZA19.0		18.60	28.0	0.50	8	3.5	1.5	0.950	900	
20.0	ZA20.0		19.50	29.0	0.50	8	3.5	1.6	1.090	950	
22.0	ZA22.0		21.50	31.0	0.50	8	3.5	1.6	1.150	1000	
23.0	±0.15		ZA23.0	22.50	31.5	0.50	8	4.0	1.5	1.220	1050
25.0		ZA25.0	24.50	34.0	0.50	8	4.0	1.6	1.490	1100	
28.0		ZA28.0	27.50	37.0	0.50	8	4.0	1.8	1.550	1200	
30.0		ZA30.0	29.50	40.0	0.50	8	4.0	1.8	1.630	1300	
35.0		ZA35.0	34.50	46.0	0.50	8	4.0	1.8	2.100	1400	
45.0	±0.15	ZA45.0	44.50	60.0	0.50	8	4.0	2.5	2.700	1500	

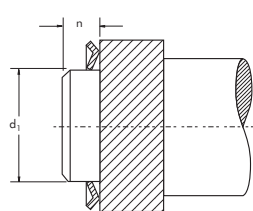
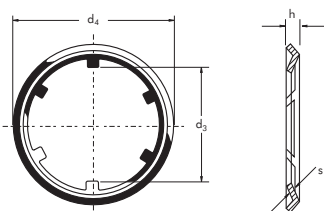
Part Number
Référence Teile Nummer Referencia de pieza

Tolerance
Tolérance Toleranz Tolerancia




Weight
Masse Gewicht Peso

Ring
Anneau/Circlips Ring Anillo

Groove
Gorge Nut Ranura



Anneaux dentelés pour alésages Klemmscheiben für Bohrungen Anillos circulares para agujeros PUSH-IN FIX FOR BORES

d ₁	Δ	M1355 ZJ							D A T A	
			d ₃	d ₄	s		n min.	h ≈	 (kg/1000)	FRg (N)
8.0	+0.00 -0.09	ZJ8	4.0	8.25	0.25	6	2.0	0.7	0.048	300
10.0		ZJ10	5.0	10.20	0.25	6	2.0	0.8	0.068	350
12.0		ZJ12	6.0	12.25	0.25	6	2.5	1.0	0.112	450
14.0		ZJ14	8.0	14.25	0.30	6	2.5	1.1	0.172	500
15.0		ZJ15	9.0	15.25	0.30	6	2.5	1.1	0.192	550
16.0	+0.00 -0.11	ZJ16	10.0	16.30	0.30	6	2.5	1.0	0.206	600
17.0		ZJ17	11.0	17.30	0.30	8	3.0	1.0	0.236	650
18.0		ZJ18	10.5	18.30	0.40	8	3.0	1.3	0.380	700
19.0		ZJ19	11.0	20.20	0.50	8	3.5	1.2	0.604	800
20.0		ZJ20	11.0	20.35	0.40	8	3.5	1.2	0.512	800
22.0	+0.00 -0.13	ZJ22	13.0	22.35	0.50	8	3.5	1.6	0.680	800
25.0		ZJ25	16.0	25.35	0.50	10	3.5	1.5	0.810	800
26.0		ZJ26	17.0	26.40	0.50	10	3.5	1.5	0.856	850
28.0		ZJ28	19.0	28.40	0.50	10	3.5	1.4	0.922	850
30.0		ZJ30	21.0	30.40	0.50	8	4.0	1.5	1.010	900
32.0	+0.00 -0.16	ZJ32	22.5	32.40	0.50	12	4.0	1.5	1.210	900
35.0		ZJ35	25.0	35.40	0.50	12	4.0	1.6	1.320	900
40.0		ZJ40	30.0	40.40	0.50	12	4.0	1.6	1.720	950
45.0		ZJ45	35.0	45.40	0.50	12	4.0	1.6	1.830	950
46.0		ZJ46	36.0	46.50	0.50	12	4.0	1.6	1.870	1000
50.0		ZJ50	39.0	50.50	0.50	12	4.0	1.7	2.160	1000

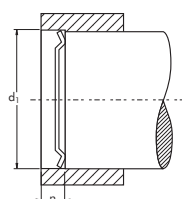
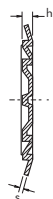
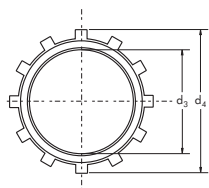
 **Part Number**
 Référence Teile Nummer Referencia de pieza




 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso

 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



d ₁	Δ	KS							D A T A	
			d ₃	d ₄	s		n min.	h ≈	 (kg/1000)	H (N)
1.5	+0.000 -0.025	KS1.5	1.30	6.00	0.25	3	2.5	1.2	0.10	200
2.0		KS2.0	1.80	7.00	0.30	3	2.5	1.3	0.13	400
2.5		KS2.5	2.30	8.25	0.30	3	2.5	1.5	0.15	700
3.0		KS3.0	2.80	10.00	0.40	3	3.0	2.0	0.20	1200
3.5	+0.000 -0.030	KS3.5	3.25	11.50	0.40	3	3.0	2.0	0.25	1200
4.0		KS4.0	3.75	13.00	0.50	4	3.5	2.4	0.50	1300
5.0		KS5.0	4.75	15.00	0.50	4	3.5	2.7	0.75	1500
6.0		KS6.0	5.75	16.50	0.60	6	4.0	2.6	1.15	1800
7.0	+0.000 -0.036	KS7.0	6.75	18.00	0.60	6	4.0	2.9	1.25	2000
8.0		KS8.0	7.75	19.50	0.70	6	4.0	2.8	1.40	3000
9.0		KS9.0	8.75	21.00	0.70	6	4.0	3.0	1.50	3500
10.0		KS10.0	9.75	22.00	0.80	6	4.0	3.0	1.65	4000

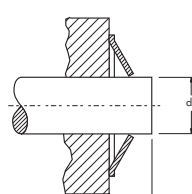
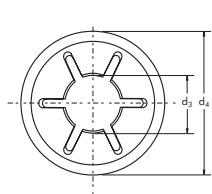
 **Part Number**
Référence Teile Nummer Referencia de pieza

 **Tolerance**
Tolérance Toleranz Tolerancia

 **Weight**
Masse Gewicht Peso

 **Ring**
Anneau/Circlips Ring Anillo




 **Groove**
Gorge Nut Ranura



KS


CIRTEQ

Anneaux dentelés pour arbres cote pouce Klemmscheiben für Wellen Zoll-Standard Anillos circulares para ejes pulgadas standard PUSH-ON FIX FOR SHAFTS INCH STANDARD

d ₁	Δ	N1465 NZA									D A T A		
			d ₃	Δ	s	Δ	h ≈	Δ		n min.	 (lbs/1000)	Tc	
0.094	±.003	NZA009	0.326	±.005	0.010	±.001	0.029	±.005	3	0.058	0.07	27	
0.125	±.004	NZA012	0.366		0.010		0.029			4	0.058	0.09	38
0.156		NZA015	0.397		0.010		0.029			4	0.058	0.10	45
0.188		NZA018	0.444		0.010		0.031			6	0.062	0.12	55
0.250		NZA025	0.522		0.010		0.037			6	0.074	0.18	58
0.312	±.005	NZA031	0.584	0.010	±.002	0.037	±.008	8	0.074	0.20	60		
0.375		NZA037	0.645	0.010		0.037			8	0.074	0.22	65	
0.437		NZA043	0.737	0.015		0.045			10	0.090	0.44	120	
0.500		NZA050	0.828	0.015		0.054			10	0.108	0.58	120	
0.562		NZA056	0.889	0.015		0.054			12	0.108	0.63	125	
0.625	±.010	NZA062	0.951	0.015	±.010	0.054	±.010	12	0.108	0.67	135		
0.750		NZA075	1.076	0.015		0.054			14	0.108	0.75	140	
0.875		NZA087	1.203	0.015		0.054			16	0.108	0.89	140	
1.000		NZA100	1.327	0.015		0.054			18	0.108	1.04	140	

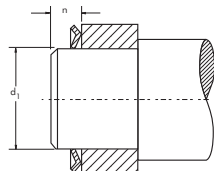
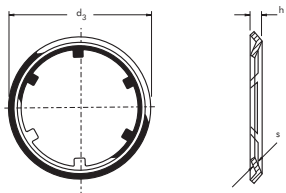
 **Part Number**
 Référence Teile Nummer Referencia de pieza

 **Tolerance**
 Tolérance Toleranz Tolerancia

 **Weight**
 Masse Gewicht Peso



 **Ring**
 Anneau/Circlips Ring Anillo

 **Groove**
 Gorge Nut Ranura



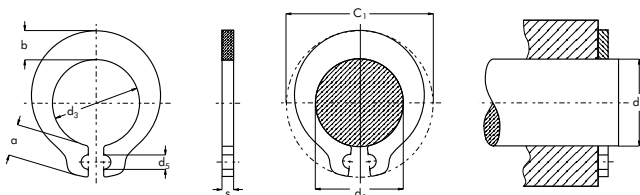
N1465/NZA



d ₁	M1440 G									D A T A	
		s	d ₃	Δ	a max.	b ≈	d ₅ min.	C ₁	 (kg/1000)	H (N)	n _{det.} x1000 (rpm)
1.5	G1.5	0.40	1.40	±0.020	1.7	0.7	0.9	4.9	0.013	40	350
2.0	G2.0	0.60	1.90		1.9	1.0	0.9	5.8	0.036	50	260
2.2	G2.2	0.60	2.05	±0.025	1.9	1.1	0.9	6.0	0.038	50	270
2.5	G2.5	0.60	2.35	±0.030	1.9	1.2	0.9	6.3	0.045	60	220
2.8	G2.8	0.60	2.65	±0.035	2.0	1.3	0.9	6.8	0.057	70	190
3.0	G3.0	0.60	2.85	±0.040	2.1	1.4	0.9	7.2	0.065	75	170
3.5	G3.5	0.60	3.30	±0.050	2.3	1.6	1.2	8.1	0.081	90	150
4.0	G4.0	0.80	3.80	±0.060	2.7	1.8	1.2	9.4	0.154	100	125
4.5	G4.5	0.80	4.25	±0.075	2.9	2.0	1.3	10.3	0.173	120	120
5.0	G5.0	0.80	4.75		2.9	2.2	1.3	10.8	0.200	130	100
5.5	G5.5	0.80	5.20	±0.090	3.0	2.2	1.3	11.5	0.216	150	90
6.0	G6.0	1.00	5.70		3.2	2.4	1.4	12.4	0.402	170	81
7.0	G7.0	1.00	6.70		3.4	2.7	1.4	13.8	0.428	180	63
8.0	G8.0	1.00	7.70		3.5	3.0	1.4	15.0	0.524	200	52
9.0	G9.0	1.20	8.65	4.7	3.3	2.0	18.4	0.808	230	46	
10.0	G10.0	1.20	9.65	±0.110	4.7	3.5	2.0	19.4	0.944	250	39
10.5	G10.5	1.20	10.20		4.0	3.8	1.5	18.5	1.100	260	34
11.0	G11.0	1.20	10.60		4.8	4.2	2.0	20.6	1.208	280	37
12.0	G12.0	1.20	11.60		4.8	4.6	2.0	22.6	1.454	300	33
13.0	G13.0	1.20	12.55		5.3	5.0	2.0	23.6	1.750	320	31
13.8	G13.8	1.50	13.30		5.1	5.4	2.2	24.0	2.492	350	30
14.0	G14.0	1.50	13.50	5.1	5.4	2.2	24.2	2.456	350	29	
15.0	G15.0	1.50	14.50	5.1	5.6	2.2	25.2	2.716	400	26	
16.0	G16.0	1.50	15.40	5.6	5.8	2.5	27.2	2.940	500	26	
17.0	G17.0	1.75	16.35	6.0	6.2	2.5	29.0	4.010	600	24	
18.0	G18.0	1.75	17.30	±0.130	6.1	6.6	2.5	30.2	4.460	700	23
20.0	G20.0	1.75	19.30		6.1	7.1	2.5	32.2	5.270	700	20
22.0	G22.0	1.75	21.20		6.6	7.4	2.5	35.2	6.060	750	18
24.0	G24.0	1.75	23.15		6.6	7.8	2.5	36.2	7.000	750	16
25.0	G25.0	1.75	24.15		6.6	8.2	2.5	37.2	7.450	750	15
30.0	G30.0	1.75	29.00		9.0	9.0	2.5	48.0	10.000	750	12

†Pour arbres sans gorge, für Wellen ohne Nut, Para ejes sin ranuras, FOR SHAFTS WITHOUT GROOVES



 Part Number Référence Teile Nummer Referencia de pieza	 Tolerance Tolérance Toleranz Tolerancia	 Weight Masse Gewicht Peso	 Ring Anneau/Circlips Ring Anillo	 Groove Gorge Nut Ranura
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M1440/G

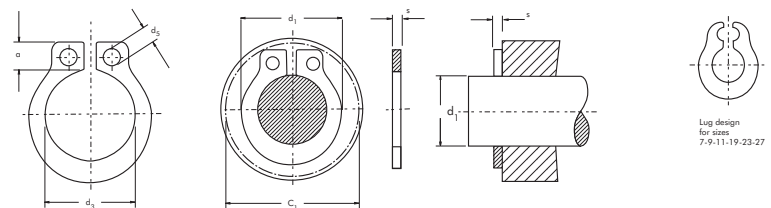



†Colliers d'étranglement cote pouce †Greifringe Zoll-Standard †Anillos de mordaza para ejes tipo 'GR'pulgadas standard †GRIP RINGS INCH STANDARD

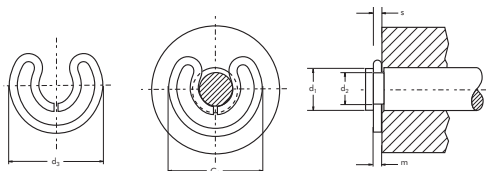
d ₁	N1440 NG										D A T A		
		Δ	d ₃	Δ	C ₁	s	Δ	d ₅	Δ	α ≈	 (lbs/1000)	T _c	
0.079	NG007	±.001	0.074	+.002 -.003	0.24	0.025	±.002	0.034	±.004	0.071	0.08	10	
0.094	NG009		0.089		0.26	0.025		0.034		0.074	0.10	10	
0.118	NG011		0.112		0.29	0.025		0.034		0.081	0.17	15	
0.125	NG012		0.120		0.33	0.025		0.042		0.078	0.24	20	
0.156	NG015		0.149		0.36	0.025		0.042		0.078	0.30	22	
0.187	NG018	±.002	0.180	±.003	0.44	0.035	±.003	0.051	+.010 -.002	0.097	0.55	25	
0.197	NG019		0.187		0.43	0.032		0.051		0.104	0.67	30	
0.236	NG023		0.224		0.50	0.039		0.051		0.098	0.76	35	
0.250	NG025		0.237		0.49	0.035		0.051		0.097	0.74	35	
0.276	NG027		0.264		0.55	0.039		0.064		0.125	1.14	40	
0.313	NG031	±.003	0.297	±.004	0.67	0.042	±.003	0.078	+.015 -.002	0.141	1.39	45	
0.375	NG037		0.353		0.73	0.042		0.078		0.141	1.72	60	
0.437	NG043		0.411		0.82	0.050		0.078		0.151	2.16	60	
0.500	NG050		0.469		0.89	0.050		0.078		0.158	2.19	65	
0.590	NG059		0.570		1.03	0.059		0.078		0.189	5.15	80	
0.625	NG062	±.005	0.592	±.005	1.06	0.062	±.004	0.078		0.180	5.70	85	
0.750	NG075		0.705		1.31	0.062		0.120		0.233	6.88	90	


†Pour arbres sans gorge, für Wellen ohne Nut, Para ejes sin ranuras, FOR SHAFTS WITHOUT GROOVES

 Part Number Référence Teile Nummer Referencia de pieza	 Tolerance Tolérance Toleranz Tolerancia	 Weight Masse Gewicht Peso	 Ring Anneau/Circlips Ring Anillo	 Groove Gorge Nut Ranura
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d ₁	A1200 YHE										D A T A	
		Δ	d ₂	Δ	m (mm)	Δ	s	C ₂	d ₃	Δ	T _g	T _c
0.125 0.156 0.188 0.188 0.219	YHE7 YHE11 YHE13 YHE14 YHE15	+.005 -.015	0.075 0.115 0.130 0.140 0.150	+.005 -.000	0.036 0.036 0.040 0.036 0.052	+.003 -.000	0.032 dia. 0.032 sq. 0.036 dia. 0.032 sq. 0.048 sq.	0.340 0.390 0.490 0.440 0.550	0.310 0.360 0.450 0.400 0.510	±.002	338 434 603 532 962	70 63 139 84 190
0.219 0.250 0.250	YHE17 YHE19 YHE21		0.170 0.195 0.200		+.010 -.005		0.036 0.044 0.036	0.032 sq. 0.040 sq. 0.032 sq.	0.530 0.540 0.540		0.480 0.480 0.480	600 915 723	104 150 125
0.266 0.281 0.313	YHE22 YHE23 YHE25	+.010 -.015	0.210 0.220 0.255	+.010 -.015		0.044 0.052 0.044	+.004/-0.000	0.040 sq. 0.048 dia. 0.040 sq.	0.590 0.610 0.630	0.540 0.560 0.570	978 1200 1160	165 203 209
0.375 0.500	YHE34 YHE43		0.330 0.435		0.044 0.060	0.040 sq. 0.056 sq.		0.740 0.940	0.690 0.870	1400 2680	153 411	



d ₁	A1100 YHP										D A T A		
		Δ	d ₂	Δ	m (mm)	Δ	s	Δ	C ₂	l _≈	T _g	T _c	Form
0.172 0.218 0.234 0.250 0.297	YHP8 YHP12 YHP15 YHP18 YHP21	+.000 -.030	0.095 0.135 0.160 0.170 0.195	±.010	0.026 0.040 0.040 0.040 0.044	+.003/-0.000	0.022 dia. 0.036 dia. 0.036 sq. 0.036 dia. 0.040 dia.	±.002	0.430 0.490 0.570 0.520 0.560	0.410 0.470 0.450 0.500 0.520	55 158 201 158 197	62 114 103 110 160	1 3 1 3 3
0.438 0.531 0.562 0.656	YHP28 YHP37 YHP43 YHP50		+.000 -.050		0.300 0.390 0.440 0.500		±.020		0.060 0.060 0.060 0.068	+.004 -.000	0.056 dia. 0.056 dia. 0.056 dia. 0.064 dia.	0.890 0.960 0.960 1.330	0.750 0.840 0.850 1.130	398 398 398 525	307 312 276 393	3 2 2 1

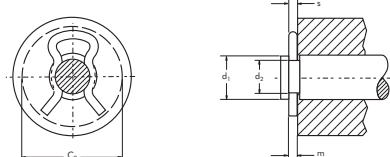
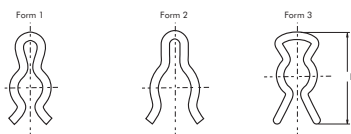
Part Number
Référence Teile Nummer Referencia de pieza

Tolerance
Tolérance Toleranz Tolerancia

Weight
Masse Gewicht Peso

Ring
Anneau/Circlips Ring Anillo

Groove
Gorge Nut Ranura



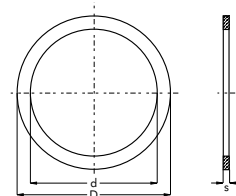
A1200/YHE A1100/YHP



Rondelles d'ajustage Paßscheiben/DIN 988PS Arandelas de ajuste SHIM WASHERS

∅		DIN988 PS	>■< / ∅												kg/1000								
d	D		0.1	-0.03	0.15	-0.04	0.2	-0.04	0.25	-0.04	0.3	-0.05	0.5	-0.05	1.0	-0.05	1.2	-0.07	1.5	-0.07	2.0	-0.07	
3	6	PS3 X 6 X >■<	0.016		0.024		0.032		0.040		0.050		0.083		0.165								
4	8	PS4 X 8 X >■<	0.030		0.045		0.060		0.075		0.089		0.148		0.296								
5	10	PS5 X 10 X >■<	0.046		0.069		0.092		0.115		0.139		0.231		0.462								
6	12	PS6 X 12 X >■<	0.067		0.101		0.134		0.168		0.200		0.333		0.666								
7	13	PS7 X 13 X >■<	0.074		0.111		0.148		0.185		0.221		0.369		0.738								
8	14	PS8 X 14 X >■<	0.082		0.123		0.164		0.205		0.245		0.408		0.815								
9	15	PS9 X 15 X >■<	0.089		0.134		0.178		0.223		0.270		0.445		0.891								
10	16	PS10 X 16 X >■<	0.096		0.144		0.192		0.240		0.290		0.481		0.963								
11	17	PS11 X 17 X >■<	0.103		0.155		0.206		0.258		0.310		0.515		1.030								
12	18	PS12 X 18 X >■<	0.111		0.167		0.222		0.278		0.332		0.555		1.110								
13	19	PS13 X 19 X >■<	0.119		0.179		0.237		0.296		0.357		0.595		1.190		1.428						
14	20	PS14 X 20 X >■<	0.126		0.189		0.252		0.315		0.378		0.630		1.260		1.512						
15	21	PS15 X 21 X >■<	0.133		0.199		0.266		0.333		0.399		0.665		1.330		1.596						
15	22	PS15 X 22 X >■<	0.137		0.205		0.274		0.342		0.410		0.683		1.360		1.636						
16	22	PS16 X 22 X >■<	0.140		0.210		0.280		0.350		0.420		0.700		1.400		1.680						
17	24	PS17 X 24 X >■<	0.177		0.266		0.354		0.443		0.530		0.885		1.770		2.124						
18	25	PS18 X 25 X >■<	0.185		0.278		0.370		0.463		0.551		0.925		1.850		2.220						
19	26	PS19 X 26 X >■<	0.194		0.291		0.388		0.485		0.584		0.970		1.940		2.328						
20	28	PS20 X 28 X >■<	0.236		0.354		0.472		0.590		0.710		1.180		2.360		2.832		3.540				
22	30	PS22 X 30 X >■<	0.257		0.386		0.514		0.643		0.770		1.280		2.570		3.084		3.855				
22	32	PS22 X 32 X >■<	0.333		0.500		0.666		0.833		1.000		1.660		3.330		3.996		4.995				
25	35	PS25 X 35 X >■<	0.370		0.555		0.740		0.925		1.110		1.850		3.700		4.440		5.550				
25	36	PS25 X 36 X >■<	0.414		0.621		0.828		1.035		1.240		2.070		4.140		4.968		6.210				
26	37	PS26 X 37 X >■<	0.427		0.641		0.854		1.068		1.280		2.130		4.270		5.124		6.400				
28	40	PS28 X 40 X >■<	0.503		0.755		1.006		1.258		1.510		2.510		5.030		6.036		7.540				
30	42	PS30 X 42 X >■<	0.535		0.803		1.070		1.338		1.600		2.680		5.350		6.420		8.030		10.7		
32	45	PS32 X 45 X >■<	0.619		0.929		1.238		1.548		1.860		3.100		6.190		7.430		9.290		12.4		
35	45	PS35 X 45 X >■<	0.495		0.743		0.990		1.238		1.490		2.480		4.950		5.940		7.430		9.9		
36	45	PS36 X 45 X >■<	0.451		0.677		0.902		1.128		1.350		2.250		4.510		5.410		6.760		9.0		
37	47	PS37 X 47 X >■<	0.516		0.774		1.032		1.290		1.550		2.580		5.160		6.190		7.740		10.3		
40	50	PS40 X 50 X >■<	0.554		0.831		1.108		1.385		1.690		2.770		5.540		6.650		8.310		11.1		
42	52	PS42 X 52 X >■<	0.580		0.870		1.060		1.350		1.730		2.900		5.780		6.930		8.680		11.5		
45	55	PS45 X 55 X >■<	0.620		0.930		1.220		1.530		1.850		3.100		6.200		7.440		9.300		12.4		
45	56	PS45 X 56 X >■<	0.680		1.020		1.360		1.700		2.040		3.400		6.800		8.160		10.200		13.6		
48	60	PS48 X 60 X >■<	0.790		1.180		1.580		1.970		2.370		3.950		7.900		9.480		11.800		15.8		

Part Number
Référence Teile Nummer Referencia de pieza
 Tolerance
Tolérance Toleranz Tolerancia
 Weight
Masse Gewicht Peso
 Ring
Anneau/Circlips Ring Anillo
 Groove
Gorge Nut Ranura



Ø		DIN988 PS	>■< / Ø									
d	D		0.1 -0.03	0.15 -0.04	0.2 -0.04	0.25 -0.04	0.3 -0.05	0.5 -0.05	1.0 -0.05	1.2 -0.07	1.5 -0.07	2.0 -0.07
50	62	PS50 X 62 X >■<	0.83	1.24	1.66	2.07	2.49	4.15	8.30	9.96	12.40	16.60
50	63	PS50 X 63 X >■<	0.91	1.36	1.82	2.27	2.73	4.55	9.10	10.90	13.60	18.20
52	65	PS52 X 65 X >■<	0.94	1.41	1.88	2.35	2.82	4.70	9.40	11.30	14.10	18.80
55	68	PS55 X 68 X >■<	0.98	1.47	1.96	2.45	2.93	4.90	9.80	11.70	14.70	19.60
56	70	PS56 X 70 X >■<	1.09	1.64	2.18	2.73	3.27	5.45	10.90	13.10	16.40	21.80
56	72	PS56 X 72 X >■<	1.27	1.90	2.54	3.17	3.80	6.35	12.70	15.20	19.00	25.40
60	75	PS60 X 75 X >■<	1.25	1.87	2.50	3.12	3.75	6.25	12.50	15.00	18.70	25.00
63	80	PS63 X 80 X >■<	1.50	2.25	3.00	3.75	4.50	7.50	15.00	18.00	22.50	30.00
65	85	PS65 X 85 X >■<	1.85	2.77	3.70	4.62	5.55	9.25	18.50	22.20	27.70	37.00
70	90	PS70 X 90 X >■<	1.97	2.95	3.94	4.92	5.90	9.85	19.70	23.60	29.50	39.40
75	95	PS75 X 95 X >■<	2.09	3.13	4.18	5.22	6.28	10.50	20.90	25.10	31.40	41.80
80	100	PS80 X 100 X >■<	2.22	3.33	4.44	5.55	6.65	11.10	22.20	26.60	33.30	44.40
85	105	PS85 X 105 X >■<	2.34	3.51	4.68	5.85	7.05	11.70	23.40	28.10	35.10	46.80
90	110	PS90 X 110 X >■<	2.47	3.70	4.94	6.17	7.40	12.40	24.70	29.60	37.10	49.40
95	115	PS95 X 115 X >■<	2.59	3.88	5.18	6.47	7.77	13.00	25.90	31.10	38.90	51.80
100	120	PS100 X 120 X >■<	2.72	4.08	5.44	6.80	8.15	13.60	27.20	32.60	40.80	54.40
100	125	PS100 X 125 X >■<	3.47	5.20	6.94	8.67	10.40	17.30	34.70			
105	130	PS105 X 130 X >■<	3.62	5.43	7.22	9.05	10.80	18.10	36.20			
110	140	PS110 X 140 X >■<	4.62	6.93	9.22	11.50	13.90	23.10	46.20			
120	150	PS120 X 150 X >■<	5.00	7.50	10.00	12.50	15.00	25.00	50.00			
130	160	PS130 X 160 X >■<	5.36	8.04	10.70	13.40	16.10	26.80	53.60			
140	170	PS140 X 170 X >■<	5.73	8.60	11.50	14.30	17.20	28.50	57.30			
150	180	PS150 X 180 X >■<	6.10	9.15	12.20	15.20	18.30	30.50	61.00			
160	190	PS160 X 190 X >■<	6.47	9.70	12.90	16.20	19.40	32.30	64.70			
170	200	PS170 X 200 X >■<	6.85	10.30	13.70	17.10	20.60	34.30	68.50			

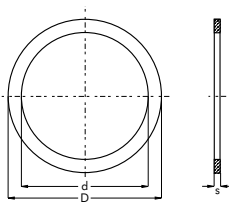
Part Number
Référence Teile Nummer Referencia de pieza

Tolerance
Tolérance Toleranz Tolerancia

Weight
Masse Gewicht Peso

Ring
Anneau/Circlips Ring Anillo

Groove
Gorge Nut Ranura



Rondelles d'appui Stützscheiben/DIN 988SS Arandelas de apoyo SUPPORT WASHERS

Ø		DIN988 SS	>■<			Ø		DIN988 SS	>■<			Ø		DIN988 SS	>■<		
d	D		s	△	(kg/1000)	d	D		s	△	(kg/1000)	d	D		s	△	(kg/1000)
3	6	SS3 X 6 X 1.0	1.0		0.165	22	32	SS22 X 32 X 2.0	2.0		6.66	56	72	SS56 X 72 X 3.0	3.0		38.0
4	8	SS4 X 8 X 1.0	1.0		0.296	25	35	SS25 X 35 X 2.0	2.0		7.40	60	75	SS60 X 75 X 3.0	3.0		37.5
5	10	SS5 X 10 X 1.0	1.0		0.462	25	36	SS25 X 36 X 2.0	2.0		8.28	63	80	SS63 X 80 X 3.0	3.0		45.0
6	12	SS6 X 12 X 1.2	1.2		0.800	26	37	SS26 X 37 X 2.0	2.0		8.54	65	85	SS65 X 85 X 3.5	3.5		63.0
7	13	SS7 X 13 X 1.2	1.2		0.885	28	40	SS28 X 40 X 2.0	2.0		10.06	70	90	SS70 X 90 X 3.5	3.5		69.0
8	14	SS8 X 14 X 1.2	1.2		0.980	30	42	SS30 X 42 X 2.5	2.5		13.40	75	95	SS75 X 95 X 3.5	3.5	-0.06	73.2
9	15	SS9 X 15 X 1.2	1.2		1.070	32	45	SS32 X 45 X 2.5	2.5	-0.05	15.50	80	100	SS80 X 100 X 3.5	3.5		77.8
10	16	SS10 X 16 X 1.2	1.2		1.150	35	45	SS35 X 45 X 2.5	2.5		12.30	85	105	SS85 X 105 X 3.5	3.5		82.0
11	17	SS11 X 17 X 1.2	1.2		1.233	36	45	SS36 X 45 X 2.5	2.5		11.30	90	110	SS90 X 110 X 3.5	3.5		86.5
12	18	SS12 X 18 X 1.2	1.2	-0.05	1.330	37	47	SS37 X 47 X 2.5	2.5		12.90	95	115	SS95 X 115 X 3.5	3.5		90.7
13	19	SS13 X 19 X 1.5	1.5		1.780	40	50	SS40 X 50 X 2.5	2.5		13.90	100	120	SS100 X 120 X 3.5	3.5		95.2
14	20	SS14 X 20 X 1.5	1.5		1.890	42	52	SS42 X 52 X 2.5	2.5		14.50	100	125	SS100 X 125 X 3.5	3.5		122.0
15	21	SS15 X 21 X 1.5	1.5		2.000	45	55	SS45 X 55 X 3.0	3.0		18.60	105	130	SS105 X 130 X 3.5	3.5		127.0
15	22	SS15 X 22 X 1.5	1.5		2.050	45	56	SS45 X 56 X 3.0	3.0		20.40	110	140	SS110 X 140 X 3.5	3.5		162.0
16	22	SS16 X 22 X 1.5	1.5		2.100	48	60	SS48 X 60 X 3.0	3.0		23.70	120	150	SS120 X 150 X 3.5	3.5		175.0
17	24	SS17 X 24 X 1.5	1.5		2.650	50	62	SS50 X 62 X 3.0	3.0	-0.06	24.90	130	160	SS130 X 160 X 3.5	3.5	-0.08	188.0
18	25	SS18 X 25 X 1.5	1.5		2.780	50	63	SS50 X 63 X 3.0	3.0		27.30	140	170	SS140 X 170 X 3.5	3.5		201.0
19	26	SS19 X 26 X 1.5	1.5		2.910	52	65	SS52 X 65 X 3.0	3.0		28.20	150	180	SS150 X 180 X 3.5	3.5		214.0
20	28	SS20 X 28 X 2.0	2.0		4.720	55	68	SS55 X 68 X 3.0	3.0		29.30	160	190	SS160 X 190 X 3.5	3.5		227.0
22	30	SS22 X 30 X 2.0	2.0		5.140	56	70	SS56 X 70 X 3.0	3.0		32.70	170	200	SS170 X 200 X 3.5	3.5		240.0

Part Number
Référence Teile Nummer Referencia de pieza
 Tolerance
Tolérance Toleranz Tolerancia
 Weight
Masse Gewicht Peso
 Ring
Anneau/Circlips Ring Anillo
 Groove
Gorge Nut Ranura

