TITGEMEYER

Fastening Technology / Circlips

CIRTEQ®

Retaining rings and Snaprings

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Types of rings

Basic types of rings

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DIN 471
D1400 / A

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D1300 / J

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M1408 / AV

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D1360 / JS

Rings for radial assembly

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D1500 / RA

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Rings for Compensating axial play

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DIN 983L
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Constant section snap rings

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DIN 7993B
DIN 9926
RB

Types of rings

Push-on fix / Grip rings

p 98-99
M1455 / ZA

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M1355 / ZJ

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KS

Range at a glance

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.

'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.

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.

Heavy Duty Circlips Reinforced Design

For applications with a high axial force.

- Use with splined shafts.

Self locking rings

Push-On fastener

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.

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.

Range at a glance

Radial assembly rings

'E' Rings

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

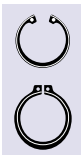
- Vehicle construction
- Optical and electronic industry
- Light mechanical industry.

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.

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.

'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.

'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.

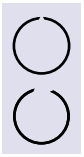
Range at a glance

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.



Snaprings

For shafts and bores with small clearance.

– Gear box construction
– Retention of bearings and seals.

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.

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.

Hardness ranges

Type	Size range	Rockwell HKC
DIN 471 / D1400 / A	3 to 48	47 to 54
DIN 472 / D1300J	50 to 200	44 to 51
M1408 / AV	202 to 300	40 to 47
M1308 / JV	305 to 1000	38 to 43
DIN 983 / D2100 / AK		
DIN 984 / D2000 / JK		
D1460 / AS		
D1360 / JS		
M1401 / AW		
M1301 / JW		
DIN 6799 / D1500 / RA	1.2 to 24	47 to 54
M1800 / H	3 to 55	
M1302 / JB	40 to 48	47 to 54
	50 to 140	44 to 51
DIN 5417 / M3200 / SP	30 to 400	40 Minimum
M2400 / SW	4 to 460	40 Minimum
M2300 / SB	7 to 440	
DIN 7993A / RW	4 to 125	
DIN 7993B / RB	7 to 125	
M1455 / ZA	1.5 to 45	47 to 54
M1355 / ZJ	8 to 50	
KS	1.5 t0 10	

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

Materials, Finishes, Packaging & Quality

Materials

standard production material is Spring Steel to DIN 17221, DIN 17222 or DIN 17223. For high temperature applications or where superior corrosion resistance is required Cirteq rings are also available in Stainless Steel DIN 1.4122 or PH15.7MO and Phosphor Bronze type PB102 or CUSN8.

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.

Packaging

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

Quality Accreditations

- IATF 16949:2016
- ISO 14001:2015

Manufacturer equivalents

Metric standard			
Cirteq	**Seeger**	**Rotorclip**	**DIN**
D1400 / A	A	DSH	471
D1300 / J	J	DHO	472
M1408 / AV	AV	DSI	
M1308 / JV	JV	DHI	
D2100 / AK	AK	DST	983
D2000 / JK	JK	DHT	984
D1460 / AS	AS	DSR	471
D1360 / JS	JS	DHR	472
D1500 / RA	RA	DE	6799
M1800 / H	H	DC	
JB	JB	DVH	
M1401 / AW	AW		
M1301 / JW	JW		
AL	AL		
JL	JL		
M3200 / SP	SP		5417
M2400 / SW	SW		
M2300 / SB	SB		
RW	RW		7993A / 9925
RB	RB		7993B / 9926
M1455 / ZA	ZA	DTX	
M1355 / ZJ	ZJ	DTI	
KS	KS		

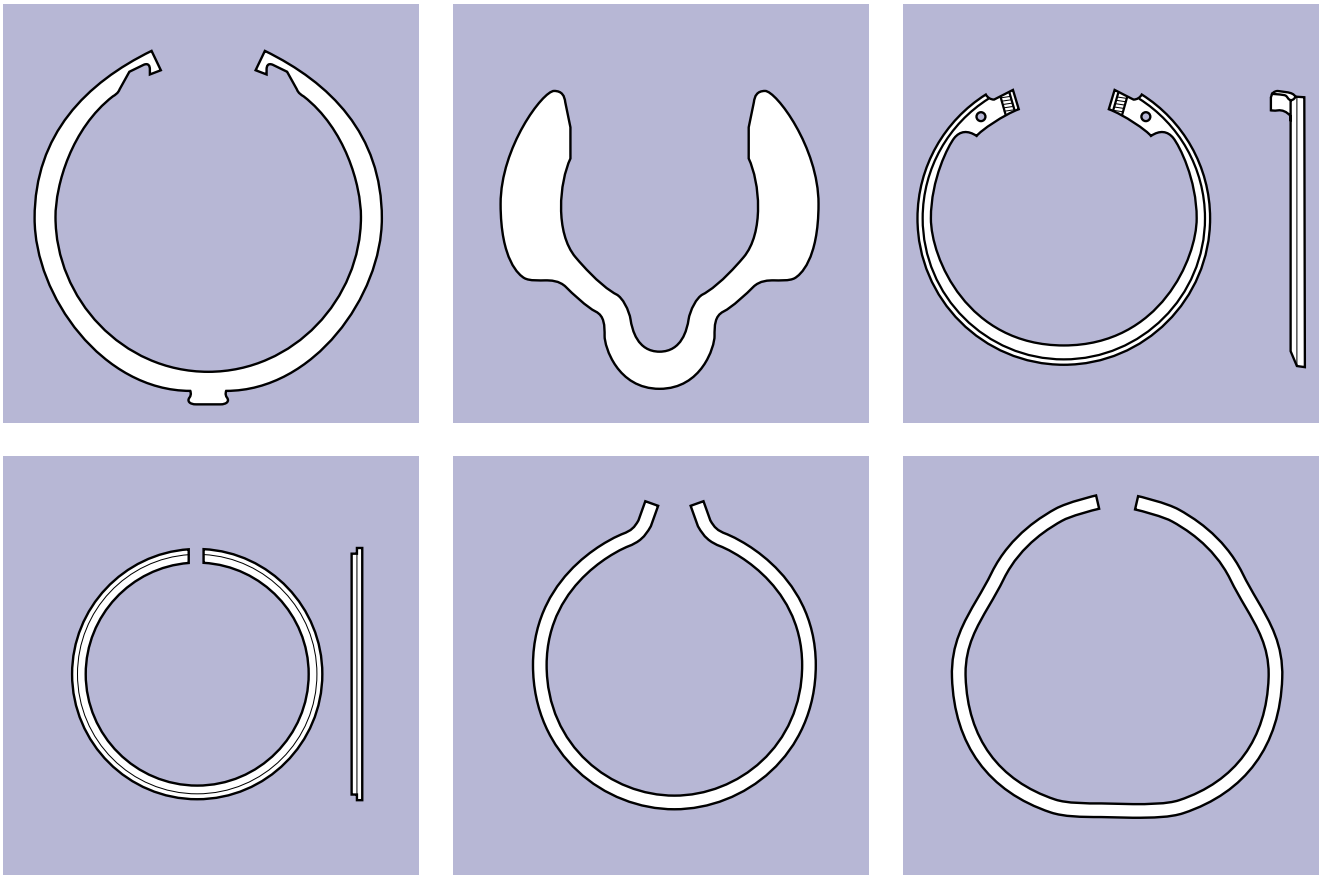
Special components

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

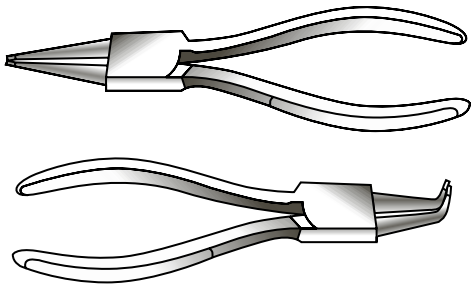
100% tested parts available on request.



Assembly Tools

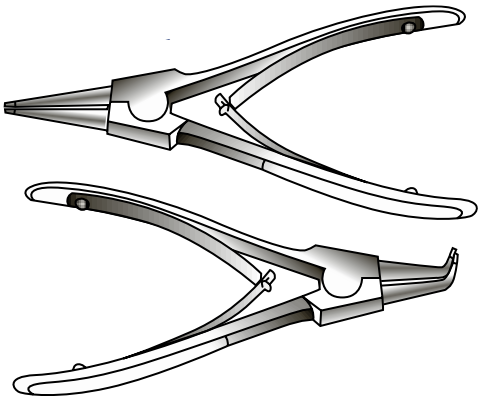
Pliers

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)	3-10	10-25	19-60	40-100	85-165

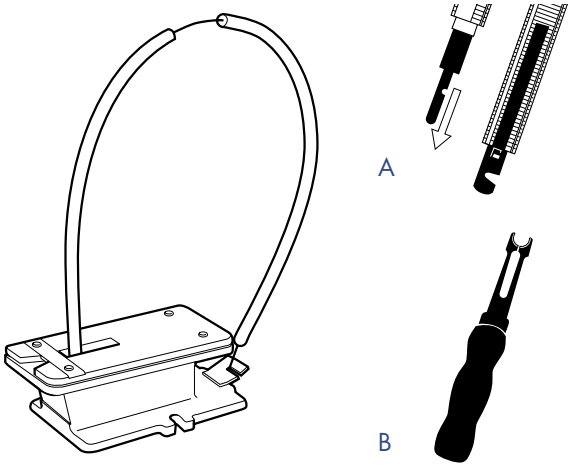
External Type A



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

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.



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

Glossary of terms

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.

C_1
(mm) Clearance of circlip on shaft / in bore.

C_2
(mm) Clearance of circlip in groove.

D
(mm) Nominal outside diameter.

d
(mm) Nominal inside diameter.

d_1
(mm) Nominal dimension = shaft or bore diameter.

d_2
(mm) Groove diameter.

d_3
(mm) Inside diameter of rings for shafts or outer diameter of rings for bores in the free state.

d_4
(mm) Centre line diameter of rings in the free state derived from the maximum radial space requirement
a or b.

$d4_2$
(mm) Diameter d4 fitted in the groove d2.

d_5
(mm) Diameter of the assembly holes or corresponding semi-circular slots.

d_7
(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).

F_1
(N) Axial spring force of W-Rings and SL washers at maximum force.

F_2
(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 n

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 FN is available.

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

r
(mm) Groove radius.

s
(mm) Thickness of rings.

s_1
(mm) Thickness of rings at bevelled edge.

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

Tc
(lb / ft) Clip thrust load.

Tg
(lb / ft) Groove thrust load.

t
(mm) Groove depth t=1 / 2(d1-d2).

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.

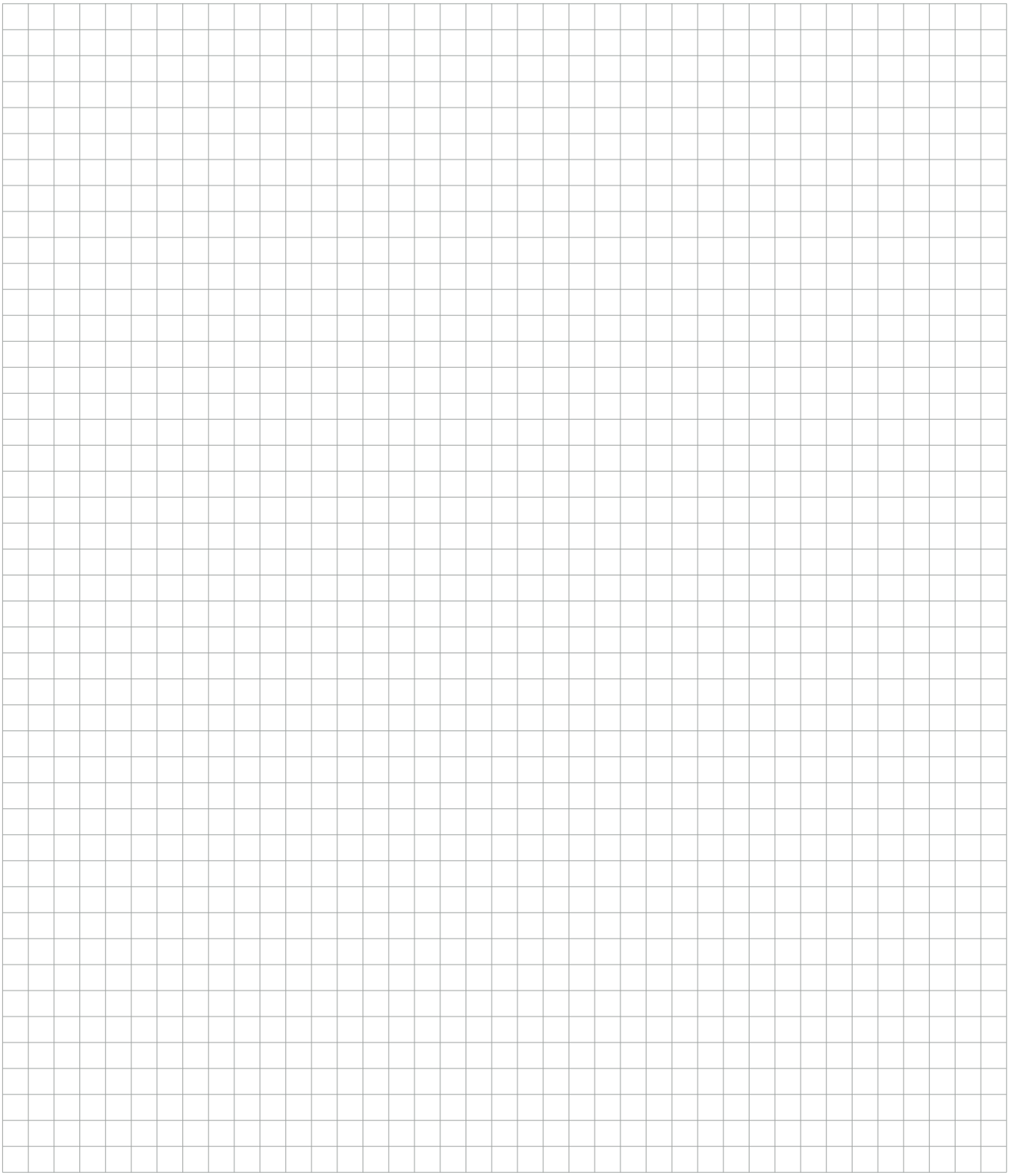
X min
(-) Minimum bow height.

Tolerance.

Number of teeth.

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

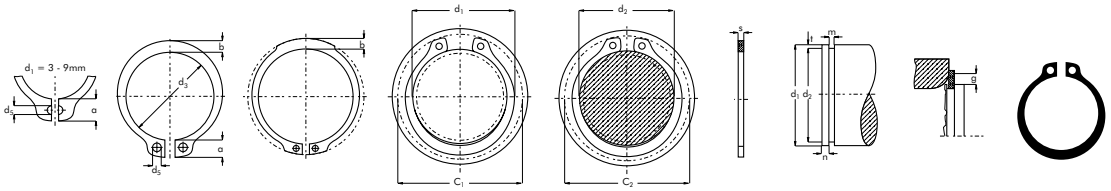
Notes



Rings for shafts

DIN 471 / D1400 / A

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	C_1	C_2	Weight [kg / 1000]
3	A3	0.40	- 0.05	2.7	+0.04	1.9	0.8	1.0	7.0	6.6	0.017
4	A4	0.40		3.7	- 0.15	2.2	0.9	1.0	8.6	8.2	0.022
5	A5	0.60		4.7		2.5	1.1	1.0	10.3	9.8	0.066
6	A6	0.70		5.6		2.7	1.3	1.2	11.7	11.1	0.084
7	A7	0.80		6.5	+0.06	3.1	1.4	1.2	13.5	12.9	0.121
8	A8	0.80		7.4	- 0.18	3.2	1.5	1.2	14.7	14.0	0.158
9	A9	1.00	- 0.06	8.4		3.3	1.7	1.2	16.0	15.2	0.300
10	A10	1.00		9.3	+0.01	3.3	1.8	1.5	17.0	16.2	0.340
11	A11	1.00		10.2	- 0.36	3.3	1.8	1.5	18.0	17.1	0.410
12	A12	1.00		11.0		3.3	1.8	1.7	19.0	18.1	0.500
13	A13	1.00		11.9		3.4	2.0	1.7	20.2	19.2	0.530
14	A14	1.00		12.9		3.5	2.1	1.7	21.4	20.4	0.640
15	A15	1.00		13.8		3.6	2.2	1.7	22.6	21.5	0.670
16	A16	1.00		14.7		3.7	2.2	1.7	23.8	22.6	0.700
17	A17	1.00		15.7		3.8	2.3	1.7	25.0	23.8	0.820
18	A18	1.20		16.5		3.9	2.4	2.0	26.2	24.8	1.110
19	A19	1.20		17.5		3.9	2.5	2.0	27.2	25.8	1.220
20	A20	1.20		18.5	+0.13	4.0	2.6	2.0	28.4	27.0	1.300
21	A21	1.20		19.5	- 0.42	4.1	2.7	2.0	29.6	28.2	1.420
22	A22	1.20		20.5		4.2	2.8	2.0	30.8	29.4	1.500
23	A23	1.20		21.5		4.3	2.9	2.0	32.0	30.6	1.630
24	A24	1.20		22.2	+0.21	4.4	3.0	2.0	33.2	31.7	1.770
25	A25	1.20		23.2	- 0.42	4.4	3.0	2.0	34.2	32.7	1.900
26	A26	1.20		24.2		4.5	3.1	2.0	35.5	33.9	1.960
27	A27	1.20		24.9		4.6	3.1	2.0	36.7	34.8	2.080
28	A28	1.50		25.9		4.7	3.2	2.0	37.9	36.0	2.920
29	A29	1.50		26.9		4.8	3.4	2.0	39.1	37.2	3.200
30	A30	1.50		27.9		5.0	3.5	2.0	40.5	38.6	3.320
31	A31	1.50		28.6		5.1	3.5	2.5	41.7	40.9	3.450
32	A32	1.50		29.6		5.2	3.6	2.5	43.0	40.7	3.540
33	A33	1.50		30.5	+0.25	5.2	3.7	2.5	44.0	41.7	3.690
34	A34	1.50		31.5	- 0.50	5.4	3.8	2.5	45.4	43.1	3.800
35	A35	1.50		32.2		5.6	3.9	2.5	46.8	44.2	4.000
36	A36	1.75		33.2		5.6	4.0	2.5	47.8	45.2	5.000
37	A37	1.75		34.2		5.7	4.1	2.5	49.0	47.0	5.370
38	A38	1.75		35.2		5.8	4.2	2.5	50.2	47.6	5.620
39	A39	1.75		36.0		5.9	4.3	2.5	51.4	48.5	5.850
40	A40	1.75		36.5		6.0	4.4	2.5	52.6	49.5	6.030
41	A41	1.75		37.5	+0.39	6.2	4.5	2.5	54.0	51.5	6.215
42	A42	1.75		38.5	- 0.90	6.5	4.5	2.5	55.7	52.5	6.500



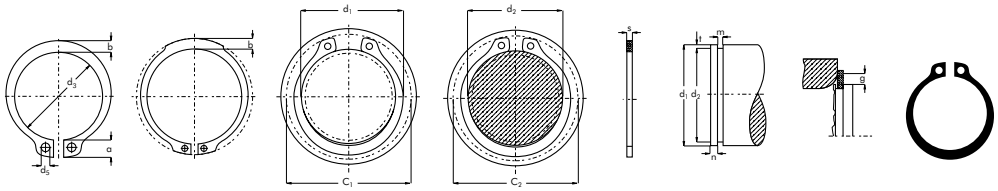
DIN 471 / D1400 / A

					DATA							
Part Number	d_2	Tolerance	m min.	t	n	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	B	$n^{det.}$ x1000 [rpm]
A3	2.8	- 0.04	0.50	0.10	0.3	0.1	0.47	0.5	0.27	0.9	2.06	360
A4	3.8		0.50	0.10	0.3	0.2	0.50	0.5	0.30	1.2	1.93	211
A5	4.8		0.70	0.10	0.3	0.2	1.00	0.5	0.80	1.5	7.38	154
A6	5.7		0.80	0.15	0.5	0.4	1.45	0.5	0.90	2.8	10.40	114
A7	6.7	- 0.06	0.90	0.15	0.5	0.5	2.60	0.5	1.40	3.2	14.70	121
A8	7.6		0.90	0.20	0.6	0.8	3.00	0.5	2.00	4.9	14.20	96
A9	8.6		1.10	0.20	0.6	0.9	3.50	0.5	2.40	5.5	30.00	85
A10	9.6	- 0.11	1.10	0.20	0.6	1.0	4.00	1.0	2.40	6.2	28.20	84
A11	10.5		1.10	0.25	0.8	1.4	4.50	1.0	2.40	8.4	26.10	70
A12	11.5		1.10	0.25	0.8	1.5	5.00	1.0	2.40	9.2	24.00	75
A13	12.4		1.10	0.30	0.9	2.0	5.80	1.0	2.40	11.9	23.20	66
A14	13.4		1.10	0.30	0.9	2.1	6.40	1.0	2.40	12.9	22.90	58
A15	14.3		1.10	0.35	1.1	2.6	6.90	1.0	2.40	16.1	21.60	50
A16	15.2		1.10	0.40	1.2	3.2	7.40	1.0	2.40	19.6	21.00	45
A17	16.2		1.10	0.40	1.2	3.4	8.00	1.0	2.40	20.8	21.60	41
A18	17.0		1.30	0.50	1.5	4.5	17.00	1.5	3.75	27.5	37.10	39
A19	18.0		1.30	0.50	1.5	4.8	17.00	1.5	3.80	29.1	36.40	35
A20	19.0	- 0.13	1.30	0.50	1.5	5.0	17.10	1.5	3.85	30.6	36.30	32
A21	20.0		1.30	0.50	1.5	5.3	16.80	1.5	3.75	32.2	35.40	29
A22	21.0		1.30	0.50	1.5	5.6	16.90	1.5	3.80	33.8	35.40	27
A23	22.0	- 0.15	1.30	0.50	1.5	5.9	16.60	1.5	3.80	35.4	34.70	25
A24	22.9	- 0.21	1.30	0.55	1.7	6.7	16.10	1.5	3.65	40.5	33.40	27
A25	23.9		1.30	0.55	1.7	7.0	16.20	1.5	3.70	42.3	33.40	25
A26	24.9		1.30	0.55	1.7	7.3	16.10	1.5	3.70	44.0	32.90	24
A27	25.6		1.30	0.70	2.1	9.6	16.40	1.5	3.80	57.8	33.40	22
A28	26.6		1.60	0.70	2.1	10.0	32.10	1.5	7.50	60.0	65.00	21
A29	27.6		1.60	0.70	2.1	10.3	31.80	1.5	7.45	62.0	64.00	20
A30	28.6		1.60	0.70	2.1	10.7	32.10	1.5	7.65	64.0	64.20	19
A31	29.3		1.60	0.85	2.6	13.4	31.50	2.0	5.60	81.0	62.80	18
A32	30.3	-0.25	1.60	0.85	2.6	13.8	31.20	2.0	5.55	83.0	61.80	17
A33	31.3		1.60	0.85	2.6	14.3	31.60	2.0	5.65	86.0	62.20	17
A34	32.3		1.60	0.85	2.6	14.7	31.30	2.0	5.60	88.0	61.30	16
A35	33.0		1.60	1.00	3.0	17.8	30.80	2.0	5.55	107.0	60.10	16
A36	34.0		1.85	1.00	3.0	18.3	49.40	2.0	9.00	110.0	95.80	15
A37	35.0		1.85	1.00	3.0	18.8	50.00	2.0	9.15	113.0	96.40	14
A38	36.0		1.85	1.00	3.0	19.3	49.5	2.0	9.10	116	95.0	14
A39	37.0		1.85	1.00	3.0	19.9	49.8	2.0	9.25	119	95.2	15
A40	37.5		1.85	1.25	3.8	25.3	51.0	2.0	9.50	152	97.0	14
A41	38.5		1.85	1.25	3.8	26.0	50.1	2.0	9.40	156	94.5	14
A42	39.5		1.85	1.25	3.8	26.7	50.0	2.0	9.45	160	93.7	13

Rings for shafts

DIN 471 / D1400 / A

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	C_1	C_2	Weight [kg / 1000]
44	A44	1.75	- 0.06	40.5	+0.39	6.6	4.6	2.5	57.9	55.4	7.000
45	A45	1.75		41.5	- 0.90	6.7	4.7	2.5	59.1	55.9	7.500
46	A46	1.75		42.5		6.7	4.8	2.5	60.1	56.9	7.600
47	A47	1.75		43.5		6.8	4.9	2.5	61.3	58.1	7.500
48	A48	1.75		44.5		6.9	5.0	2.5	62.5	59.3	7.900
50	A50	2.00	- 0.07	45.8		6.9	5.1	2.5	64.5	60.8	10.20
52	A52	2.00		47.8		7.0	5.2	2.5	66.7	63.0	11.10
54	A54	2.00		49.8		7.1	5.3	2.5	69.0	65.2	11.30
55	A55	2.00		50.8	+0.46	7.2	5.4	2.5	70.2	66.4	11.40
56	A56	2.00		51.8	- 1.10	7.3	5.5	2.5	71.6	67.6	11.80
57	A57	2.00		52.8		7.3	5.5	2.5	72.3	69.3	12.20
58	A58	2.00		53.8		7.3	5.6	2.5	73.6	69.6	12.60
60	A60	2.00		55.8		7.4	5.8	2.5	75.6	71.8	12.90
62	A62	2.00		57.8		7.5	6.0	2.5	77.8	74.0	14.30
63	A63	2.00		58.8		7.6	6.2	2.5	79.0	75.2	15.90
65	A65	2.50		60.8		7.8	6.3	3.0	81.4	77.6	18.20
67	A67	2.50		62.5		7.9	6.4	3.0	83.6	79.8	20.30
68	A68	2.50		63.5		8.0	6.5	3.0	84.4	81.0	21.80
70	A70	2.50		65.5		8.1	6.6	3.0	87.0	83.2	22.00
72	A72	2.50		67.5		8.2	6.8	3.0	89.2	85.4	22.50
75	A75	2.50		70.5		8.4	7.0	3.0	92.7	88.8	24.60
77	A77	2.50		72.5		8.5	7.2	3.0	94.9	91.0	25.70
78	A78	2.50		73.5		8.6	7.3	3.0	96.1	92.2	26.20
80	A80	2.50		74.5		8.6	7.4	3.0	98.1	93.7	27.30
82	A82	2.50		76.5		8.7	7.6	3.0	100.3	95.9	31.20
85	A85	3.00	- 0.08	79.5		8.7	7.8	3.5	103.3	98.9	36.40
87	A87	3.00		81.5		8.8	7.9	3.5	105.5	100.9	39.80
88	A88	3.00		82.5	+0.54	8.8	8.0	3.5	106.5	102.0	41.20
90	A90	3.00		84.5	- 1.30	8.8	8.2	3.5	108.5	104.0	44.50
92	A92	3.00		86.5		9.0	8.4	3.5	110.9	107.4	46.00
95	A95	3.00		89.5		9.4	8.6	3.5	114.8	111.0	49.0
97	A97	3.00		91.5		9.4	8.8	3.5	116.7	113.2	50.2
98	A98	3.00		91.5		9.4	8.8	3.5	118.6	114.0	50.2
100	A100	3.00		94.5		9.6	9.0	3.5	120.2	116.0	53.7
102	A102	4.00	- 0.10	95.0		9.7	9.2	3.5	122.4	118.0	78.0
105	A105	4.00		98.0		9.9	9.3	3.5	126.2	122.0	80.0
107	A107	4.00		100.0		10.0	9.5	3.5	128.0	124.0	81.0
108	A107	4.00		100.0		10.0	9.5	3.5	129.0	124.0	81.0
110	A110	4.00		103.0		10.1	9.6	3.5	131.2	127.0	82.0
112	A112	4.00		105.0		10.3	9.7	3.5	133.6	129.6	83.0



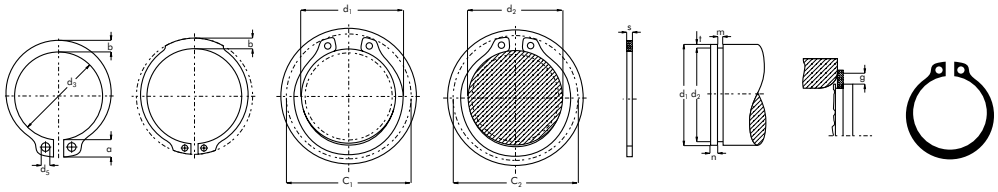
DIN 471 / D1400 / A

					DATA							
Part Number	d_2	Tolerance	m min.	t	n	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	B	$n^{det.}$ x1000 [rpm]
A44	41.5	- 0.25	1.85	1.25	3.8	28.0	48.5	2.0	9.20	168	90.7	12
A45	42.5		1.85	1.25	3.8	28.6	49.0	2.0	9.35	172	91.0	11
A46	43.5		1.85	1.25	3.8	29.4	48.9	2.0	9.40	177	90.2	11
A47	44.5		1.85	1.25	3.8	30.0	49.5	2.0	9.55	180	90.7	11
A48	45.5		1.85	1.25	3.8	30.7	49.4	2.0	9.55	184	90.0	10
A50	47.0		2.15	1.50	4.5	38.0	73.3	2.0	14.40	228	133.0	11
A52	49.0		2.15	1.50	4.5	39.7	73.1	2.5	11.50	238	133.0	10
A54	51.0	- 0.30	2.15	1.50	4.5	41.2	71.2	2.5	11.30	247	129.0	9
A55	52.0		2.15	1.50	4.5	42.0	71.4	2.5	11.40	252	130.0	9
A56	53.0		2.15	1.50	4.5	42.8	70.8	2.5	11.30	257	129.0	9
A57	54.0		2.15	1.50	4.5	43.7	70.9	2.5	11.40	262	128.0	8
A58	55.0		2.15	1.50	4.5	44.3	71.1	2.5	11.50	266	129.0	8
A60	57.0		2.15	1.50	4.5	46.0	69.2	2.5	11.30	276	126.0	8
A62	59.0		2.15	1.50	4.5	47.5	69.3	2.5	11.40	285	126.0	7
A63	60.0		2.15	1.50	4.5	48.3	70.2	2.5	11.60	290	126.0	7
A65	62.0		2.65	1.50	4.5	49.8	135.0	2.5	22.70	299	245.0	7
A67	64.0		2.65	1.50	4.5	51.3	136.0	2.5	23.00	308	245.0	7
A68	65.0		2.65	1.50	4.5	52.2	135.0	2.5	23.10	313	244.0	7
A70	67.0		2.65	1.50	4.5	53.8	134.0	2.5	23.00	323	241.0	7
A72	69.0		2.65	1.50	4.5	55.3	131.0	2.5	22.80	332	236.0	6
A75	72.0		2.65	1.50	4.5	57.6	130.0	2.5	22.80	346	234.0	6
A77	74.0		2.65	1.50	4.5	59.3	131.0	3.0	19.70	356	238.0	6
A78	75.0		2.65	1.50	4.5	60.0	131.0	3.0	19.70	360	239.0	5
A80	76.5		2.65	1.75	5.3	71.6	128.0	3.0	19.50	430	236.0	6
A82	78.5		2.65	1.75	5.3	73.5	128.0	3.0	19.60	441	237.0	6
A85	81.5	- 0.35	3.15	1.75	5.3	76.2	215.0	3.0	33.40	457	405.0	6
A87	83.5		3.15	1.75	5.3	78.2	222.0	3.0	34.80	469	405.0	5
A88	84.5		3.15	1.75	5.3	79.0	221.0	3.0	34.80	474	406.0	5
A90	86.5		3.15	1.75	5.3	80.0	217.0	3.0	34.40	485	401.0	5
A92	88.5		3.15	1.75	5.3	82.0	217.0	3.5	29.60	496	404.0	5
A95	91.5		3.15	1.75	5.3	85.0	212	3.5	29.20	513	400	5
A97	93.5		3.15	1.75	5.3	87.0	211	3.5	29.40	524	401	4
A98	94.5		3.15	1.75	5.3	88.0	208	3.5	29.00	529	397	4
A100	96.5		3.15	1.75	5.3	90.0	206	3.5	29.00	540	397	4
A102	98.0	- 0.54	4.15	2.00	6.0	104.0	482	3.5	68.50	628	935	5
A105	101.0		4.15	2.00	6.0	107.0	471	3.5	67.70	646	925	5
A107	103.0		4.15	2.00	6.0	110.0	465	3.5	67.30	660	920	5
A107	104.0		4.15	2.00	6.0	111.0	459	3.5	66.30	666	912	4
A110	106.0		4.15	2.00	6.0	113.0	457	3.5	66.90	678	914	4
A112	108.0		4.15	2.00	6.0	115.0	451	3.5	66.60	690	910	4

Rings for shafts

DIN 471 / D1400 / A

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	C_1	C_2	Weight [kg / 1000]
115	A115	4.00	- 0.10	108.0	+0.63	10.6	9.8	3.5	137.3	133.0	84.0
117	A117	4.00		110.0	- 1.50	10.8	10.0	3.5	139.7	135.7	85.0
118	A117	4.00		110.0		10.8	10.0	3.5	140.7	136.7	85.0
120	A120	4.00		113.0		11.0	10.2	3.5	143.1	138.0	86.0
122	A122	4.00		115.0		11.2	10.3	4.0	145.5	141.5	88.0
125	A125	4.00		118.0		11.4	10.4	4.0	149.0	144.0	90.0
127	A127	4.00		120.0		11.4	10.5	4.0	150.9	146.8	95.0
128	A128	4.00		120.0		11.4	10.5	4.0	151.9	147.9	95.0
130	A130	4.00		123.0		11.6	10.7	4.0	154.4	150.0	100.0
132	A132	4.00		125.0		11.7	10.8	4.0	156.6	152.6	103.0
135	A135	4.00		128.0		11.8	11.0	4.0	159.8	155.0	104.0
137	A137	4.00		130.0		11.9	11.0	4.0	162.0	158.0	107.0
138	A137	4.00		130.0		11.9	11.0	4.0	163.0	159.0	107.0
140	A140	4.00		133.0		12.0	11.2	4.0	165.2	160.0	110.0
142	A142	4.00		135.0		12.1	11.3	4.0	167.4	163.4	112.0
145	A145	4.00		138.0		12.2	11.5	4.0	170.6	166.0	115.0
147	A147	4.00		140.0		12.3	11.6	4.0	172.8	168.8	116.0
148	A147	4.00		140.0		12.3	11.6	4.0	173.8	169.8	116.0
150	A150	4.00		142.0		13.0	11.8	4.0	177.3	171.0	120.0
152	A152	4.00		143.0		13.0	11.9	4.0	179.3	174.3	128.0
155	A155	4.00		146.0		13.0	12.0	4.0	182.3	176.0	135.0
157	A157	4.00		148.0		13.1	12.0	4.0	184.5	179.5	140.0
158	A157	4.00		148.0		13.1	12.0	4.0	185.5	180.5	140.0
160	A160	4.00		151.0		13.3	12.2	4.0	188.0	182.0	150.0
162	A162	4.00		152.5		13.3	12.3	4.0	189.9	184.9	155.0
165	A165	4.00		155.5		13.5	12.5	4.0	193.5	187.0	160.0
167	A167	4.00		157.5		13.5	12.9	4.0	195.3	190.3	163.0
168	A167	4.00		157.5		13.5	12.9	4.0	196.3	191.3	163.0
170	A170	4.00		160.5		13.5	12.9	4.0	198.4	192.0	170.0
172	A172	4.00		160.5		13.5	12.9	4.0	200.4	195.3	170.0
175	A175	4.00		165.5		13.5	12.9	4.0	203.4	197.0	180.0
177	A177	4.00		167.5		14.2	13.5	4.0	206.8	202.0	183.0
178	A177	4.00		167.5		14.2	13.5	4.0	207.8	203.0	183.0
180	A180	4.00		170.5		14.2	13.5	4.0	210.0	204.0	190.0
182	A180	4.00		170.5		14.2	13.5	4.0	211.8	207.0	190.0
185	A185	4.00		175.5		14.2	13.5	4.0	215.2	209.0	200.0
187	A187	4.00		177.5		14.2	14.0	4.0	216.8	212.0	203.0
188	A187	4.00		177.5		14.2	14.0	4.0	217.8	213.0	203.0
190	A190	4.00		180.5	+0.72	14.2	14.0	4.0	220.0	214.0	210.0
192	A190	4.00		180.5	- 1.70	14.2	14.0	4.0	221.8	217.0	210.0



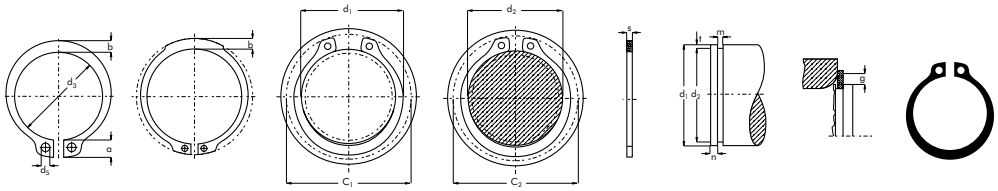
DIN 471 / D1400 / A

					DATA							
Part Number	d_2	Tolerance	m min.	t	n	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	B	$n^{det.}$ x1000 [rpm]
A115	111.0	- 0.54	4.15	2.00	6.0	118.0	438	3.5	65.50	709	894	4
A117	113.0		4.15	2.00	6.0	120.0	437	3.5	65.60	722	899	4
A117	114.0		4.15	2.00	6.0	121.0	430	3.5	64.80	728	887	4
A120	116.0		4.15	2.00	6.0	123.0	424	3.5	64.50	741	882	4
A122	118.0		4.15	2.00	6.0	125.0	418	4.0	56.60	753	875	4
A125	121.0	- 0.63	4.15	2.00	6.0	128.0	411	4.0	56.50	772	870	3
A127	123.0		4.15	2.00	6.0	130.0	407	4.0	56.10	785	868	3
A128	124.0		4.15	2.00	6.0	131.0	401	4.0	55.60	791	859	3
A130	126.0		4.15	2.00	6.0	134.0	395	4.0	55.20	804	852	3
A132	128.0		4.15	2.00	6.0	136.0	396	4.0	55.60	816	859	3
A135	131.0		4.15	2.00	6.0	139.0	389	4.0	55.40	835	854	3
A137	133.0		4.15	2.00	6.0	141.0	380	4.0	54.40	848	840	3
A137	134.0		4.15	2.00	6.0	142.0	381	4.0	54.70	854	845	3
A140	136.0		4.15	2.00	6.0	144.0	376	4.0	54.40	867	840	3
A142	138.0		4.15	2.00	6.0	146.0	370	4.0	54.00	880	833	3
A145	141.0		4.15	2.00	6.0	149.0	367	4.0	53.80	898	833	3
A147	143.0		4.15	2.00	6.0	151.0	361	4.0	53.50	910	826	3
A147	144.0		4.15	2.00	6.0	152.0	357	4.0	53.00	916	820	2
A150	145.0		4.15	2.50	7.5	193.0	357	4.0	53.40	1158	825	2
A152	147.0		4.15	2.50	7.5	195.0	356	4.0	53.10	1174	822	3
A155	150.0		4.15	2.50	7.5	199.0	352	4.0	52.60	1198	814	3
A157	152.0		4.15	2.50	7.5	202.0	352	4.0	52.50	1212	814	3
A157	153.0		4.15	2.50	7.5	203.0	353	4.0	52.70	1221	815	3
A160	155.0		4.15	2.50	7.5	206.0	349	4.0	52.50	1237	806	3
A162	157.0		4.15	2.50	7.5	208.0	348	5.0	41.70	1251	804	3
A165	160.0		4.15	2.50	7.5	212.0	345	5.0	41.40	1275	797	3
A167	162.0		4.15	2.50	7.5	215.0	354	5.0	42.50	1291	819	3
A167	163.0		4.15	2.50	7.5	216.0	353	5.0	42.40	1300	815	2
A170	165.0		4.15	2.50	7.5	219.0	349	5.0	41.90	1315	806	2
A172	167.0		4.15	2.50	7.5	221.0	344	5.0	41.30	1330	795	2
A175	170.0		4.15	2.50	7.5	225.0	340	5.0	40.70	1353	785	2
A177	172.0		4.15	2.50	7.5	228.0	335	5.0	40.20	1370	774	2
A177	173.0		4.15	2.50	7.5	229.0	349	5.0	42.00	1378	807	2
A180	175.0		4.15	2.50	7.5	232.0	345	5.0	41.40	1393	797	2
A180	177.0		4.15	2.50	7.5	235.0	341	5.0	41.00	1410	789	2
A185	180.0		4.15	2.50	7.5	238.0	336	5.0	40.40	1432	777	2
A187	182.0	- 0.72	4.15	2.50	7.5	241.0	338	5.0	40.50	1449	781	2
A187	183.0		4.15	2.50	7.5	242.0	337	5.0	40.60	1457	779	2
A190	185.0		4.15	2.50	7.5	245.0	333	5.0	40.00	1471	770	3
A190	187.0		4.15	2.50	7.5	248.0	330	5.0	39.60	1488	763	3

Rings for shafts

DIN 471 / D1400 / A

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	C_1	C_2	Weight [kg / 1000]
195	A195	4.00	- 0.10	185.5	+0.72	14.2	14.0	4.0	225.0	219.0	220.0
197	A197	4.00		187.5	- 1.70	14.2	14.0	4.0	226.8	222.0	223.0
198	A197	4.00		187.5		14.2	14.0	4.0	227.8	223.0	223.0
200	A200	4.00		190.5		14.2	14.0	4.0	230.0	224.0	230.0
202	A202	5.00	- 0.12	190.0		14.2	14.0	4.0	231.8	226.0	235.0
205	A205	5.00		193.0		14.2	14.0	4.0	235.0	228.0	243.0
207	A205	5.00		193.0		14.2	14.0	4.0	236.8	231.0	243.0
208	A205	5.00		193.0		14.2	14.0	4.0	237.8	232.0	243.0
210	A210	5.00		198.0		14.2	14.0	4.0	240.0	233.0	248.0
212	A210	5.00		198.0		14.2	14.0	4.0	241.8	236.0	248.0
215	A215	5.00		203.0		14.2	14.0	4.0	244.8	239.0	260.0
217	A215	5.00		203.0		14.2	14.0	4.0	246.8	241.0	260.0
218	A215	5.00		203.0		14.2	14.0	4.0	247.8	242.0	260.0
220	A220	5.00		208.0		14.2	14.0	4.0	250.0	243.0	265.0
222	A220	5.00		208.0		14.2	14.0	4.0	251.8	246.0	265.0
225	A225	5.00		213.0		14.2	14.0	4.0	255.0	249.0	280.0
227	A225	5.00		213.0		14.2	14.0	4.0	257.0	251.0	280.0
228	A225	5.00		213.0		14.2	14.0	4.0	258.0	252.0	280.0
230	A230	5.00		218.0		14.2	14.0	4.0	260.0	253.0	290.0
232	A230	5.00		218.0		14.2	14.0	4.0	262.0	256.0	290.0
235	A235	5.00		223.0		14.2	14.0	4.0	265.0	259.0	305
237	A235	5.00		223.0		14.2	14.0	4.0	267.0	261.0	305
238	A235	5.00		223.0		14.2	14.0	4.0	268.0	262.0	305
240	A240	5.00		228.0		14.2	14.0	4.0	270.0	263.0	310
242	A240	5.00		228.0		14.2	14.0	4.0	272.0	266.0	310
245	A245	5.00		233.0		14.2	14.0	4.0	275.0	269.0	325
247	A245	5.00		233.0		14.2	14.0	4.0	277.0	271.0	325
248	A245	5.00		233.0		14.2	14.0	4.0	278.0	272.0	325
250	A250	5.00		238.0		14.2	14.0	4.0	280.0	273.0	335
252	A250	5.00		238.0		16.2	16.0	5.0	286.0	278.0	335
255	A255	5.00		240.0		16.2	16.0	5.0	289.0	281.0	348
257	A255	5.00		240.0		16.2	16.0	5.0	291.0	283.0	348
258	A255	5.00		240.0		16.2	16.0	5.0	292.0	284.0	348
260	A260	5.00		245.0		16.2	16.0	5.0	294.0	285.0	355
262	A260	5.00		245.0		16.2	16.0	5.0	296.0	288.0	355
265	A265	5.00		250.0		16.2	16.0	5.0	299.0	291.0	370
267	A265	5.00		250.0		16.2	16.0	5.0	301.0	293.0	370
268	A265	5.00		250.0		16.2	16.0	5.0	302.0	294.0	370
270	A270	5.00		255.0	+0.81	16.2	16.0	5.0	304.0	295.0	375
272	A270	5.00		255.0	- 2.00	16.2	16.0	5.0	306.0	298.0	375



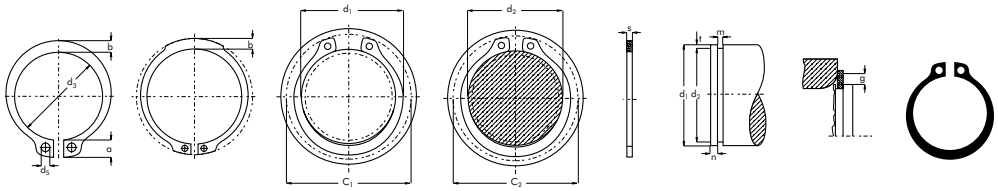
DIN 471 / D1400 / A

					DATA							
Part Number	d_2	Tolerance	m min.	t	n	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	B	$n^{det.}$ x1000 [rpm]
A195	190.0	- 0.72	4.15	2.50	7.5	251.0	325	5.0	39.00	1511	751	2
A197	192.0		4.15	2.50	7.5	254.0	322	5.0	38.60	1528	744	2
A197	193.0		4.15	2.50	7.5	255.0	322	5.0	38.70	1535	739	2
A200	195.0		4.15	2.50	7.5	258.0	319	5.0	38.30	1550	731	2
A202	196.0		5.15	3.00	9.0	312.0	624	6.0	62.50	1875	1430	2
A205	199.0		5.15	3.00	9.0	317.0	611	6.0	61.30	1905	1401	2
A205	201.0		5.15	3.00	9.0	320.0	608	6.0	60.90	1921	1392	2
A205	202.0		5.15	3.00	9.0	321.0	605	6.0	60.50	1930	1385	2
A210	204.0		5.15	3.00	9.0	325.0	598	6.0	59.90	1951	1370	2
A210	206.0		5.15	3.00	9.0	328.0	593	6.0	59.50	1969	1359	2
A215	209.0		5.15	3.00	9.0	332.0	585	6.0	58.50	1997	1340	2
A215	211.0		5.15	3.00	9.0	336.0	580	6.0	58.10	2018	1330	2
A215	212.0		5.15	3.00	9.0	337.0	577	6.0	57.80	2024	1322	2
A220	214.0		5.15	3.00	9.0	340.0	572	6.0	57.30	2045	1311	2
A220	216.0		5.15	3.00	9.0	343.0	567	6.0	56.80	2062	1300	2
A225	219.0		5.15	3.00	9.0	349.0	559	6.0	56.00	2095	1282	2
A225	221.0		5.15	3.00	9.0	351.0	555	6.0	55.50	2110	1271	1
A225	222.0		5.15	3.00	9.0	353.0	552	6.0	55.40	2120	1265	1
A230	224.0		5.15	3.00	9.0	356.0	548	6.0	55.00	2140	1257	1
A230	226.0		5.15	3.00	9.0	359.0	543	6.0	54.50	2155	1243	1
A235	229		5.15	3.00	9.0	364	537	6.0	53.80	2185	1230	1
A235	231		5.15	3.00	9.0	367	532	6.0	53.40	2202	1220	1
A235	232		5.15	3.00	9.0	369	530	6.0	53.00	2215	1214	1
A240	234		5.15	3.00	9.0	372	530	6.0	53.00	2236	1214	1
A240	236		5.15	3.00	9.0	375	520	6.0	52.20	2250	1193	1
A245	239		5.15	3.00	9.0	380	515	6.0	51.50	2280	1180	1
A245	241		5.15	3.00	9.0	383	511	6.0	51.20	2300	1171	1
A245	242		5.15	3.00	9.0	385	508	6.0	50.90	2310	1164	1
A250	244		5.15	3.00	9.0	388	504	6.0	50.50	2330	1155	1
A250	244		5.15	4.00	12.0	519	563	6.0	56.40	3115	1290	1
A255	247		5.15	4.00	12.0	525	557	6.0	55.70	3150	1276	1
A255	249		5.15	4.00	12.0	529	551	6.0	55.20	3175	1264	1
A255	250		5.15	4.00	12.0	531	550	6.0	55.10	3190	1260	1
A260	252	- 0.81	5.15	4.00	12.0	535	540	6.0	54.60	3215	1250	1
A260	254		5.15	4.00	12.0	540	542	6.0	54.40	3240	1242	1
A265	257		5.15	4.00	12.0	546	536	6.0	53.70	3280	1228	1
A265	259		5.15	4.00	12.0	550	532	6.0	53.30	3300	1219	1
A265	260		5.15	4.00	12.0	553	529	6.0	53.00	3320	1213	1
A270	262		5.15	4.00	12.0	556	525	6.0	52.50	3340	1203	1
A270	264		5.15	4.00	12.0	560	522	6.0	52.00	3365	1196	1

Rings for shafts

DIN 471 / D1400 / A

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	C_1	C_2	Weight [kg / 1000]
275	A275	5.00	- 0.12	260.0	+0.81	16.2	16.0	5.0	309.0	301.0	390
277	A275	5.00		260.0	- 2.00	16.2	16.0	5.0	311.0	303.0	390
278	A275	5.00		260.0		16.2	16.0	5.0	312.0	304.0	390
280	A280	5.00		265.0		16.2	16.0	5.0	314.0	305.0	398
282	A280	5.00		265.0		16.2	16.0	5.0	316.0	308.0	398
285	A285	5.00		270.0		16.2	16.0	5.0	319.0	311.0	410
287	A287	5.00		270.0		16.2	16.0	5.0	321.0	313.0	410
288	A288	5.00		270.0		16.2	16.0	5.0	322.0	314.0	410
290	A290	5.00		275.0		16.2	16.0	5.0	324.0	315.0	418
292	A292	5.00		275.0		16.2	16.0	5.0	326.0	318.0	418
295	A295	5.00		280.0		16.2	16.0	5.0	329.0	321.0	430
297	A297	5.00		280.0		16.2	16.0	5.0	331.0	323.0	430
298	A298	5.00		280.0		16.2	16.0	5.0	332.0	324.0	430
300	A300	5.00		285.0		16.2	16.0	5.0	334.0	325.0	440
305	A305	6.00	- 0.15	288.0			20.0	6.0	339.0	329.0	738
310	A310	6.00		293.0			20.0	6.0			750
315	A315	6.00		298.0			20.0	6.0			760
320	A320	6.00		303.0			20.0	6.0			770
325	A325	6.00		308.0			20.0	6.0			787
330	A330	6.00		313.0			20.0	6.0			800
335	A335	6.00		318.0	+0.90		20.0	6.0			826
340	A340	6.00		323.0	- 2.00		20.0	6.0			840
345	A345	6.00		328.0			20.0	6.0			845
350	A350	6.00		333.0			20.0	6.0			850
355	A355	6.00		338.0			20.0	6.0			865
360	A360	6.00		343.0			20.0	6.0			880
365	A365	6.00		348.0			20.0	6.0			885
370	A370	6.00		353.0			20.0	6.0			890
375	A375	6.00		358.0			20.0	6.0			910
380	A380	6.00		363.0			20.0	6.0			930
385	A385	6.00		368.0			20.0	6.0			940
390	A390	6.00		373.0			20.0	6.0			950
395	A395	6.00		378.0			20.0	6.0			990
400	A400	6.00		383.0			20.0	6.0			1040
410	A410	7.00		390.0			26.0	6.0			1320
420	A420	7.00		400.0			26.0	6.0			1360
430	A430	7.00		410.0	+1.00		26.0	6.0			1390
440	A440	7.00		420.0	- 2.00		26.0	6.0			1420
450	A450	7.00		430.0			26.0	6.0			1450
460	A460	7.00		440.0			26.0	6.0			1520



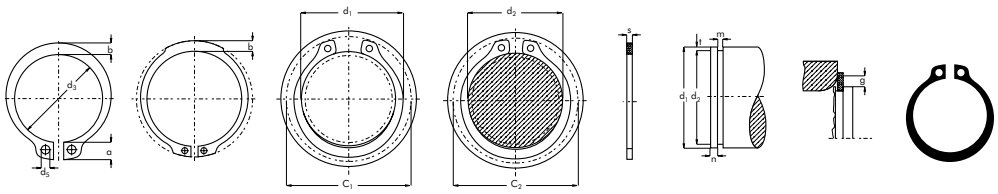
DIN 471 / D1400 / A

					DATA							
Part Number	d_2	Tolerance	m min.	t	n	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	B	$n^{det.}$ x1000 [rpm]
A275	267	- 0.81	5.15	4.00	12.0	566	516	6.0	51.00	3400	1183	1
A275	269		5.15	4.00	12.0	571	513	6.0	51.00	3430	1175	1
A275	270		5.15	4.00	12.0	574	510	6.0	51.00	3445	1170	
A280	272		5.15	4.00	12.0	576	508	6.0	50.00	3460	1164	1
A280	274		5.15	4.00	12.0	580	503	6.0	50.00	3485	1152	1
A285	277		5.15	4.00	12.0	587	499	6.0	50.00	3525	1143	1
A287	279		5.15	4.00	12.0	591	494	6.0	49.00	3550	1133	1
A288	280		5.15	4.00	12.0	594	493	6.0	49.00	3565	1131	1
A290	282		5.15	4.00	12.0	599	490	6.0	49.00	3595	1124	1
A292	284		5.15	4.00	12.0	603	487	6.0	48.00	3620	1116	1
A295	287		5.15	4.00	12.0	609	481	6.0	48.00	3655	1103	1
A297	289		5.15	4.00	12.0	613	479	6.0	48.00	3680	1098	1
A298	290		5.15	4.00	12.0	615	476	6.0	47.00	3695	1092	1
A300	292		5.15	4.00	12.0	619	475	6.0	47.00	3715	1088	1
A305	295		6.20	5.00	15.0	785	1036	7.0	89.00	4712	2374	1
A310	300		6.20	5.00	15.0	796	1016	7.0	87.00	4780	2329	1.0
A315	305		6.20	5.00	15.0	811	1007	7.0	86.00	4869	2307	1.0
A320	310	- 0.89	6.20	5.00	15.0	825	988	7.0	85.00	4950	2264	1.0
A325	315		6.20	5.00	15.0	837	975	7.0	83.00	5027	2233	1.0
A330	320		6.20	5.00	15.0	850	958	7.0	82.00	5100	2195	1.0
A335	325		6.20	5.00	15.0	864	945	7.0	81.00	5184	2166	1.0
A340	330		6.20	5.00	15.0	876	932	7.0	80.00	5260	2136	1.0
A345	335		6.20	5.00	15.0	890	917	7.0	79.00	5341	2102	1.0
A350	340		6.20	5.00	15.0	903	906	7.0	77.00	5420	2074	1.0
A355	345		6.20	5.00	15.0	916	894	7.0	76.00	5498	2048	1.0
A360	350		6.20	5.00	15.0	928	880	7.0	75.00	5570	2017	1.0
A365	355		6.20	5.00	15.0	942	868	7.0	74.00	5655	1990	1.0
A370	360		6.20	5.00	15.0	955	856	7.0	73.00	5730	1962	1.0
A375	365		6.20	5.00	15.0	968	847	7.0	72.00	5812	1943	1.0
A380	370		6.20	5.00	15.0	980	833	7.0	71.00	5880	1909	1.0
A385	375		6.20	5.00	15.0	994	823	7.0	70.00	5969	1886	1.0
A390	380		6.20	5.00	15.0	1008	814	7.0	70.00	6050	1865	1.0
A395	385		6.20	5.00	15.0	1021	803	7.0	69.00	6126	1841	1.0
A400	390		6.20	5.00	15.0	1033	793	7.0	69.00	6200	1817	1.0
A410	398		7.20	6.00	18.0	1269	1616	7.0	139.00	7615	3701	1.0
A420	408	- 1.00	7.20	6.00	18.0	1300	1569	7.0	135.00	7803	3595	1.0
A430	418		7.20	6.00	18.0	1332	1540	7.0	132.00	7992	3527	1.0
A440	428		7.20	6.00	18.0	1363	1500	7.0	129.00	8181	3448	1.0
A450	438		7.20	6.00	18.0	1393	1472	7.0	126.00	8360	3373	1.0
A460	448		7.20	6.00	18.0	1426	1443	7.0	124.00	8557	3305	1.0

Rings for shafts

DIN 471 / D1400 / A

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	C_1	C_2	Weight [kg / 1000]
470	**A470**	7.00	- 0.15	450.0	+1.00		26.0	6.0			1590
480	**A480**	7.00		460.0	- 2.00		26.0	6.0			1660
490	**A490**	7.00		470.0			26.0	6.0			1725
500	**A500**	7.00		480.0			26.0	6.0			1790
510	**A510**	8.00		485.0			26.0	6.0			2300
520	**A520**	8.00		495.0			26.0	6.0			2350
530	**A530**	8.00		505.0	+1.50		26.0	6.0			2400
540	**A540**	8.00		515.0	- 3.00		26.0	6.0			2445
550	**A550**	8.00		525.0			26.0	6.0			2490
560	**A560**	8.00		535.0			26.0	6.0			2580
570	**A570**	8.00	- 0.15	545.0			26.0	6.0			2670
580	**A580**	8.00		555.0			26.0	6.0			2760
590	**A590**	8.00		565.0			26.0	6.0			2840
600	**A600**	8.00		575.0			26.0	6.0			2920
650	**A650**	9.00	- 0.20	620.0			34.0	6.0			3770
700	**A700**	9.00		670.0			34.0	6.0			4070
750	**A750**	9.00		715.0			34.0	9.0			4640
800	**A800**	9.00		765.0			34.0	9.0			5330
850	**A850**	9.00		810.0	+2.00		34.0	9.0			6030
900	**A900**	9.00		860.0	- 4.00		34.0	9.0			6640
950	**A950**	9.00		900.00			34.0	9.0			7260
1000	**A1000**	9.00		950.00			34.0	9.0			8130



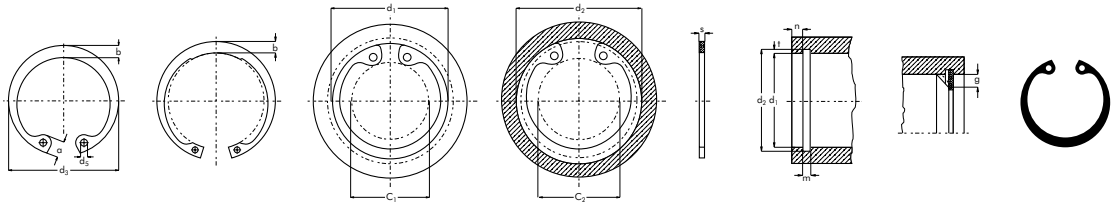
DIN 471 / D1400 / A

					DATA							
Part Number	d_2	Tolerance	m min.	t	n	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	B	$n^{det.}$ x1000 [rpm]
A470	458	- 1.00	7.20	6.00	18.0	1457	1413	7.0	121.00	8746	3237	1.0
A480	468		7.20	6.00	18.0	1489	1383	7.0	119.00	8935	3169	0.5
A490	478		7.20	6.00	18.0	1520	1355	7.0	116.00	9123	3105	0.5
A500	488		7.20	6.00	18.0	1550	1329	7.0	114.00	9300	3044	0.5
A510	496		8.20	7.00	21.0	1843	1952	7.0	167.00	11061	4471	1.0
A520	506		8.20	7.00	21.0	1880	1910	7.0	164.00	11282	4387	0.5
A530	516		8.20	7.00	21.0	1916	1878	7.0	161.00	11501	4302	0.5
A540	526		8.20	7.00	21.0	1953	1846	7.0	158.00	11721	4229	0.4
A550	536		8.20	7.00	21.0	1986	1812	7.0	155.00	11920	4150	0.4
A560	546		8.20	7.00	21.0	2026	1777	7.0	153.00	12161	4071	0.4
A570	556		8.20	7.00	21.0	2063	1750	7.0	150.00	12381	4009	0.40
A580	566		8.20	7.00	21.0	2100	1718	7.0	147.00	12601	3936	0.40
A590	576		8.20	7.00	21.0	2136	1689	7.0	145.00	12821	3869	0.40
A600	586		8.20	7.00	21.0	2170	1600	7.0	143.00	13030	3807	0.30
A650	634		9.30	8.00	24.0	2640	2810	7.0	242.00	15860	6447	0.40
A700	684		9.30	8.00	24.0	2890	2615	7.0	225.00	17350	5990	0.30
A750	732		9.30	9.00	27.0	3490	2450	7.0	207.00	20950	5606	0.19
A800	782		9.30	9.00	27.0	3730	2299	7.0	195.00	22380	5261	0.30
A850	830		9.30	10.00	30.0	4400	2166	7.0	183.00	26400	4956	0.30
A900	880		9.30	10.00	30.0	4650	2047	7.0	173.00	27950	4684	0.20
A950	928		9.30	11.00	33.0	5400	1945	7.0	165.00	32450	4451	0.20
A1000	978		9.30	11.00	33.0	5700	1851	7.0	157.00	34200	4235	0.20

Rings for bores

DIN 472 / D1300 / J

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	C_1	C_2	Weight [lbs / 1000]
8	J8	0.80	- 0.05	8.7	+0.36	2.4	1.1	1.0	3.0	3.6	0.10
9	J9	0.80		9.8	- 0.10	2.5	1.3	1.0	3.7	4.4	0.13
10	J10	1.00	- 0.06	10.8		3.2	1.4	1.2	3.3	4.0	0.26
11	J11	1.00		11.8		3.3	1.5	1.2	4.1	4.8	0.31
12	J12	1.00		13.0		3.4	1.7	1.5	4.9	5.7	0.37
13	J13	1.00		14.1		3.6	1.8	1.5	5.4	6.4	0.42
14	J14	1.00		15.1		3.7	1.8	1.7	6.2	7.2	0.52
15	J15	1.00		16.2		3.7	2.0	1.7	7.2	8.3	0.56
16	J16	1.00		17.3		3.8	2.0	1.7	8.0	9.2	0.60
17	J17	1.00		18.3	+0.42	3.9	2.1	1.7	8.8	10.0	0.65
18	J18	1.00		19.5	- 0.13	4.1	2.2	2.0	9.4	10.8	0.74
19	J19	1.00		20.5		4.1	2.2	2.0	10.4	11.8	0.83
20	J20	1.00		21.5		4.1	2.3	2.0	11.2	12.6	0.90
21	J21	1.00		22.5		4.2	2.4	2.0	12.2	13.6	1.00
22	J22	1.00		23.5		4.2	2.5	2.0	13.2	14.6	1.10
23	J23	1.20		24.6		4.2	2.5	2.0	14.2	15.7	1.34
24	J24	1.20		25.9	+0.42	4.3	2.6	2.0	14.8	16.4	1.42
25	J25	1.20		26.9	- 0.21	4.5	2.7	2.0	15.5	17.2	1.50
26	J26	1.20		27.9		4.7	2.8	2.0	16.1	17.8	1.60
27	J27	1.20		29.1		4.7	2.9	2.0	17.1	19.0	1.75
28	J28	1.20		30.1	+0.50	4.8	2.9	2.0	17.9	19.8	1.80
29	J29	1.20		31.1	- 0.25	4.8	3.0	2.0	18.9	20.8	1.88
30	J30	1.20		32.1		4.8	3.0	2.0	19.9	21.8	2.06
31	J31	1.20		33.4		5.2	3.1	2.5	20.0	22.3	2.10
32	J32	1.20		34.4		5.4	3.2	2.5	20.6	22.9	2.21
33	J33	1.20		35.5		5.4	3.3	2.5	21.6	23.9	2.40
34	J34	1.50		36.5		5.4	3.3	2.5	22.6	24.9	3.20
35	J35	1.50		37.8		5.4	3.4	2.5	23.6	26.2	3.54
36	J36	1.50		38.8		5.4	3.5	2.5	24.6	27.2	3.70
37	J37	1.50		39.8		5.5	3.6	2.5	25.4	28.0	3.74
38	J38	1.50		40.8		5.5	3.7	2.5	26.4	29.0	3.90
39	J39	1.50		42.0	+0.90	5.6	3.8	2.5	27.3	29.8	4.00
40	J40	1.75		43.5	- 0.39	5.8	3.9	2.5	27.8	30.9	4.70
41	J41	1.75		44.5		5.9	4.0	2.5	28.6	31.7	5.10
42	J42	1.75		45.5		5.9	4.1	2.5	29.6	32.7	5.40
43	J43	1.75		46.5		5.9	4.2	2.5	30.6	33.7	5.60
44	J44	1.75		47.5		6.0	4.2	2.5	31.4	34.5	5.80
45	J45	1.75		48.5		6.2	4.3	2.5	32.0	35.1	6.00
46	J46	1.75		49.5		6.3	4.4	2.5	32.8	35.9	6.05
47	J47	1.75		50.5		6.4	4.4	2.5	33.5	36.7	6.10



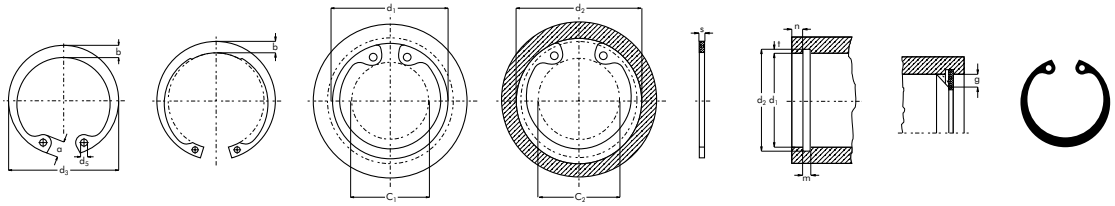
DIN 472 / D1300 / J

					DATA						
Part Number	d_2	Tolerance	m min.	t	n min	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	K [kN•mm⁸]
J8	8.4	+0.09	0.90	0.20	0.6	0.86	2.0	0.5	1.5	5.1	9.25
J9	9.4		0.90	0.20	0.6	0.96	2.0	0.5	1.5	5.7	8.40
J10	10.4	+0.11	1.10	0.20	0.6	1.08	4.0	0.5	2.2	6.4	19.60
J11	11.4		1.10	0.20	0.6	1.17	4.0	0.5	2.3	7.0	21.00
J12	12.5		1.10	0.25	0.8	1.60	4.0	0.5	2.3	9.6	20.20
J13	13.6		1.10	0.30	0.9	2.10	4.2	0.5	2.3	12.5	20.30
J14	14.6		1.10	0.30	0.9	2.10	4.5	0.5	2.3	13.4	19.70
J15	15.7		1.10	0.35	1.1	2.80	5.0	0.5	2.3	16.8	19.00
J16	16.8		1.10	0.40	1.2	3.40	5.5	1.0	2.6	20.6	18.40
J17	17.8		1.10	0.40	1.2	3.60	6.0	1.0	2.5	21.8	18.10
J18	19.0	+0.13	1.10	0.50	1.5	4.80	6.5	1.0	2.6	29.0	18.20
J19	20.0		1.10	0.50	1.5	5.10	6.8	1.0	2.6	30.6	17.20
J20	21.0		1.10	0.50	1.5	5.40	7.2	1.0	2.6	32.2	16.90
J21	22.0		1.10	0.50	1.5	5.70	7.6	1.0	2.6	33.8	17.20
J22	23.0		1.10	0.50	1.5	5.90	8.0	1.0	2.7	35.3	17.60
J23	24.1		1.30	0.55	1.7	6.80	8.0	1.0	4.6	40.7	28.80
J24	25.2	+0.21	1.30	0.60	1.8	7.70	13.9	1.0	4.6	46.3	28.40
J25	26.2		1.30	0.60	1.8	8.00	14.6	1.0	4.7	48.2	29.00
J26	27.2		1.30	0.60	1.8	8.40	13.8	1.0	4.6	50.1	27.80
J27	28.4		1.30	0.70	2.1	10.10	13.3	1.0	4.5	60.9	26.60
J28	29.4		1.30	0.70	2.1	10.50	13.3	1.0	4.5	63.1	26.30
J29	30.4	+0.25	1.30	0.70	2.1	10.90	13.6	1.0	4.6	65.3	26.80
J30	31.4		1.30	0.70	2.1	11.30	13.7	1.0	4.6	67.5	26.60
J31	32.7		1.30	0.85	2.6	14.10	13.8	1.0	4.7	84.8	26.80
J32	33.7		1.30	0.85	2.6	14.60	13.8	1.0	4.7	87.9	26.60
J33	34.7		1.30	0.85	2.6	15.00	14.3	1.0	4.9	90.3	27.00
J34	35.7		1.60	0.85	2.6	15.40	26.2	1.5	6.3	92.6	50.00
J35	37.0		1.60	1.00	3.0	18.80	26.9	1.5	6.4	113.0	50.50
J36	38.0		1.60	1.00	3.0	19.40	26.4	1.5	6.4	116.0	50.20
J37	39.0		1.60	1.00	3.0	19.80	27.1	1.5	6.5	119.0	51.00
J38	40.0		1.60	1.00	3.0	22.50	28.2	1.5	6.7	123.0	51.70
J39	41.0		1.60	1.00	3.0	26.00	28.8	1.5	6.9	126.0	52.40
J40	42.5		1.85	1.25	3.8	27.00	44.6	2.0	8.3	162.0	80.10
J41	43.5		1.85	1.25	3.8	27.60	45.0	2.0	8.3	166.0	81.20
J42	44.5		1.85	1.25	3.8	28.40	44.7	2.0	8.4	170.0	80.90
J43	45.5		1.85	1.25	3.8	28.80	44.5	2.0	8.4	173	80.5
J44	46.5		1.85	1.25	3.8	29.50	43.3	2.0	8.3	177	78.6
J45	47.5		1.85	1.25	3.8	30.20	43.1	2.0	8.2	181	78.1
J46	48.5		1.85	1.25	3.8	30.80	42.9	2.0	8.2	185	77.8
J47	49.5		1.85	1.25	3.8	31.40	43.5	2.0	8.3	189	78.9

Rings for bores

DIN 472 / D1300 / J

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	C_1	C_2	Weight [lbs / 1000]
48	J48	1.75	- 0.06	51.5	+1.10	6.4	4.5	2.5	34.5	37.7	6.70
50	J50	2.00	- 0.07	54.2	- 0.46	6.5	4.6	2.5	36.3	40.0	7.30
51	J51	2.00		55.2		6.5	4.7	2.5	37.3	41.0	7.75
52	J52	2.00		56.2		6.7	4.7	2.5	37.9	41.6	8.20
53	J53	2.00		57.2		6.7	4.9	2.5	39.0	42.6	8.22
54	J54	2.00		58.2		6.7	5.0	2.5	40.0	43.6	8.25
55	J55	2.00		59.2		6.8	5.0	2.5	40.7	44.4	8.30
56	J56	2.00		60.2		6.8	5.1	2.5	41.7	45.4	8.80
57	J57	2.00		61.2		6.8	5.1	2.5	42.7	46.4	9.40
58	J58	2.00		62.2		6.9	5.2	2.5	43.5	47.2	10.50
60	J60	2.00		64.2		7.3	5.4	2.5	44.7	48.4	11.10
62	J62	2.00		66.2		7.3	5.5	2.5	46.7	50.4	11.20
63	J63	2.00		67.2		7.3	5.6	2.5	47.7	51.4	12.40
64	J64	2.00		68.2		7.4	5.7	2.5	48.7	52.4	12.45
65	J65	2.50		69.2		7.6	5.8	3.0	49.0	52.8	14.30
67	J67	2.50		71.5		7.7	6.0	3.0	50.8	54.6	15.30
68	J68	2.50		72.5		7.8	6.1	3.0	51.6	55.4	16.00
70	J70	2.50		74.5		7.8	6.2	3.0	53.6	57.4	16.50
72	J72	2.50		76.5		7.8	6.4	3.0	55.6	59.4	18.10
75	J75	2.50		79.5		7.8	6.6	3.0	58.6	62.4	18.80
77	J77	2.50		82.5	+1.30	8.5	6.8	3.0	59.2	63.0	20.40
78	J77	2.50		82.5	- 0.54	8.5	6.8	3.0	60.1	64.0	20.40
80	J80	2.50		85.5		8.5	7.0	3.0	62.1	66.5	22.00
81	J81	2.50		86.5		8.5	7.0	3.0	62.2		23.00
82	J82	2.50		87.5		8.5	7.0	3.0	64.1	68.5	24.00
83	J83	2.50		88.5		8.5	7.0	3.0	65.2	69.5	25.00
85	J85	3.00	- 0.08	90.5		8.6	7.2	3.5	66.9	71.3	25.30
87	J87	3.00		93.5		8.6	7.4	3.5	69.0	73.3	31.00
88	J87	3.00		93.5		8.6	7.4	3.5	69.9	74.3	31.00
90	J90	3.00		95.5		8.6	7.6	3.5	71.9	76.3	33.00
92	J92	3.00		97.5		8.7	7.8	3.5	73.7	78.1	35.0
95	J95	3.00		100.5		8.8	8.1	3.5	76.5	80.9	37.0
97	J98	3.00		103.5		9.0	8.3	3.5	78.1	82.5	41.0
98	J98	3.00		103.5		9.0	8.3	3.5	79.0	83.5	41.0
100	J100	3.00		105.5		9.2	8.4	3.5	80.6	85.1	42.0
102	J102	4.00	- 0.10	108.0		9.5	8.5	3.5	82.0	87.0	55.0
105	J105	4.00		112.0		9.5	8.7	3.5	85.0	90.0	56.0
107	J108	4.00		115.0		9.5	8.9	3.5	87.0	92.0	60.0
108	J108	4.00		115.0		9.5	8.9	3.5	88.0	93.0	60.0
110	J110	4.00		117.0		10.4	9.0	3.5	88.2	93.2	64.5



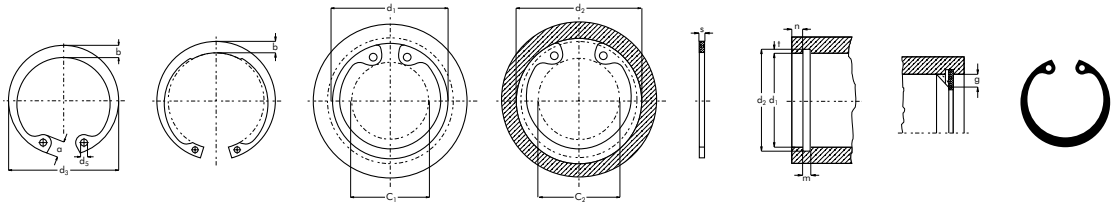
DIN 472 / D1300 / J

					DATA						
Part Number	d_2	Tolerance	m min.	t	n min	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	K [kN•mm⁸]
J48	50.5	+0.30	1.85	1.25	3.8	32.00	43.2	2.0	8.4	193	78.5
J50	53.0		2.15	1.50	4.5	40.50	60.8	2.0	12.1	243	111.0
J51	54.0		2.15	1.50	4.5	41.20	60.2	2.0	12.0	247	109.0
J52	55.0		2.15	1.50	4.5	42.00	60.2	2.0	12.0	252	108.0
J53	56.0		2.15	1.50	4.5	42.90	60.7	2.0	12.1	257	110.0
J54	57.0		2.15	1.50	4.5	43.60	60.4	2.0	12.3	262	110.0
J55	58.0		2.15	1.50	4.5	44.40	60.3	2.0	12.5	266	111.0
J56	59.0		2.15	1.50	4.5	45.20	60.3	2.0	12.6	271	111.0
J57	60.0		2.15	1.50	4.5	46.00	60.8	2.0	12.7	276	112.0
J58	61.0		2.15	1.50	4.5	46.70	60.8	2.0	12.7	280	112.0
J60	63.0		2.15	1.50	4.5	48.30	61.0	2.0	13.0	290	113.0
J62	65.0		2.15	1.50	4.5	49.80	60.9	2.0	13.0	299	112.0
J63	66.0		2.15	1.50	4.5	50.60	60.8	2.0	13.0	304	112.0
J64	67.0		2.15	1.50	4.5	51.40	60.6	2.0	13.0	308	112.0
J65	68.0		2.65	1.50	4.5	51.80	121.0	2.5	20.8	313	220.0
J67	70.0		2.65	1.50	4.5	53.80	121.0	2.5	21.1	323	222.0
J68	71.0		2.65	1.50	4.5	56.20	119.0	2.5	21.0	337	218.0
J70	73.0		2.65	1.50	4.5	56.20	119.0	2.5	21.0	337	218.0
J72	75.0		2.65	1.50	4.5	58.00	119.0	2.5	21.0	346	217.0
J75	78.0		2.65	1.50	4.5	60.00	118.0	2.5	21.0	360	215.0
J77	80.0		2.65	1.50	4.5	61.60	121.0	2.5	21.5	370	220.0
J77	81.0	+0.35	2.65	1.50	4.5	62.30	122.0	2.5	21.8	374	221.0
J80	83.5		2.65	1.75	5.3	74.60	120.0	2.5	21.8	448	219.0
J81	84.5		2.65	1.75	5.3	75.80	119.0	2.5	21.6	455	216.0
J82	85.5		2.65	1.75	5.3	76.60	119.0	2.5	21.4	460	214.0
J83	86.5		2.65	1.75	5.3	77.50	118.0	2.5	21.2	466	213.0
J85	88.5		3.15	1.75	5.3	79.50	201.0	3.0	31.2	477	364.0
J87	90.5		3.15	1.75	5.3	81.30	204.0	3.0	31.8	488	370.0
J87	91.5		3.15	1.75	5.3	82.00	209.0	3.0	32.7	493	380.0
J90	93.5		3.15	1.75	5.3	84.00	199.0	3.0	31.4	504	364.0
J92	95.5		3.15	1.75	5.3	85.0	201	3.0	32.0	515	371
J95	98.5		3.15	1.75	5.3	88.0	195	3.0	31.4	532	365
J98	100.5		3.15	1.75	5.3	90.0	193	3.0	31.2	543	364
J98	101.5		3.15	1.75	5.3	91.0	191	3.0	31.0	548	361
J100	103.5		3.15	1.75	5.3	93.0	188	3.0	30.8	559	359
J102	106.0	+0.54	4.15	2.00	6.0	108.0	439	3.0	72.6	653	846
J105	109.0		4.15	2.00	6.0	112.0	436	3.0	73.0	672	850
J108	111.0		4.15	2.00	6.0	114.0	425	3.0	71.6	684	834
J108	112.0		4.15	2.00	6.0	115.0	419	3.0	71.0	691	825
J110	114.0		4.15	2.00	6.0	117.0	415	3.0	71.0	704	824

Rings for bores

DIN 472 / D1300 / J

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	C_1	C_2	Weight [lbs / 1000]
112	J112	4.00	- 0.10	119.0	+1.30 - 0.54	10.5	9.1	3.5	90.0	95.0	72.0
115	J115	4.00		122.0	+1.50	10.5	9.3	3.5	93.0	98.0	74.5
117	J118	4.00		125.0	- 0.63	10.7	9.6	3.5	94.6	99.6	75.5
118	J118	4.00		125.0		10.7	9.6	3.5	95.6	100.6	75.5
120	J120	4.00		127.0		11.0	9.7	3.5	96.9	102.0	77.0
122	J122	4.00		129.0		11.0	9.8	4.0	98.0	104.0	78.0
125	J125	4.00		132.0		11.0	10.0	4.0	101.9	107.0	79.0
127	J128	4.00		135.0		11.0	10.0	4.0	103.9	109.0	81.0
128	J128	4.00		135.0		11.0	10.2	4.0	104.9	110.0	81.0
130	J130	4.00		137.0		11.0	10.2	4.0	106.9	112.0	82.0
132	J132	4.00		139.0		11.0	10.3	4.0	108.9	114.0	83.0
135	J135	4.00		142.0		11.2	10.5	4.0	111.5	116.0	84.0
137	J138	4.00		145.0		11.2	10.6	4.0	113.5	118.6	86.0
138	J138	4.00		145.0		11.2	10.6	4.0	114.5	119.6	86.0
140	J140	4.00		147.0		11.2	10.7	4.0	116.5	121.0	87.5
142	J142	4.00		149.0		11.3	10.8	4.0	118.3	123.4	89.0
145	J145	4.00		152.0		11.4	10.9	4.0	121.0	126.0	93.0
147	J148	4.00		155.0		11.8	11.1	4.0	122.2	127.4	100.0
148	J148	4.00		155.0		11.8	11.1	4.0	123.2	128.4	100.0
150	J150	4.00		158.0		12.0	11.2	4.0	124.8	131.0	105.0
152	J152	4.00		161.0		12.0	11.3	4.0	126.8	133.0	106.0
155	J155	4.00		164.0		12.0	11.4	4.0	129.8	136.0	107.0
157	J158	4.00		167.0		12.3	11.5	4.0	131.2	137.4	109.0
158	J158	4.00		167.0		12.3	11.5	4.0	132.2	138.4	109.0
160	J160	4.00		169.0		13.0	11.6	4.0	132.7	139.0	110.0
162	J162	4.00		171.5		13.0	11.7	4.0	134.7	141.0	118.0
165	J165	4.00		174.5		13.0	11.8	4.0	137.7	144.0	125.0
167	J168	4.00		177.5		13.5	12.1	4.0	138.7	145.0	135.0
168	J168	4.00		177.5		13.5	12.1	4.0	139.7	146.0	135.0
170	J170	4.00		179.5		13.5	12.2	4.0	141.6	148.0	140.0
172	J172	4.00		181.5	+1.70	13.5	12.5	4.0	143.6	150.0	145.0
175	J175	4.00		184.5	- 0.72	13.5	12.7	4.0	146.6	153.0	150.0
177	J178	4.00		187.5		14.2	12.9	4.0	147.0	153.6	162.0
178	J178	4.00		187.5		14.2	12.9	4.0	148.0	154.6	162.0
180	J180	4.00		189.5		14.2	13.2	4.0	150.2	156.0	165.0
182	J182	4.00		191.5		14.2	13.5	4.0	152.0	158.6	168.0
185	J185	4.00		194.5		14.2	13.7	4.0	155.2	161.0	170.0
187	J188	4.00		197.5		14.2	13.8	4.0	157.0	163.6	174.0
188	J188	4.00		197.5		14.2	13.8	4.0	158.0	164.6	174.0
190	J190	4.00		199.5		14.2	13.8	4.0	160.2	166.0	175.0



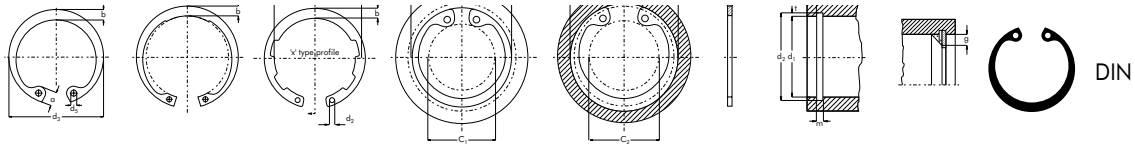
DIN 472 / D1300 / J

					DATA						
Part Number	d_2	Tolerance	m min.	t	n min	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	K [kN•mm⁸]
J112	116.0	+0.54	4.15	2.00	6.0	119.0	418	3.0	72.0	715	837
J115	119.0		4.15	2.00	6.0	122.0	409	3.0	71.2	735	829
J118	121.0	+0.63	4.15	2.00	6.0	124.0	399	3.0	70.0	747	814
J118	122.0		4.15	2.00	6.0	125.0	394	3.0	69.3	754	807
J120	124.0		4.15	2.00	6.0	127.0	396	3.0	70.0	767	818
J122	126.0		4.15	2.00	6.0	129.0	399	3.0	71.0	779	829
J125	129.0		4.15	2.00	6.0	132.0	385	3.0	70.0	797	809
J128	131.0		4.15	2.00	6.0	135.0	383	3.0	70.0	810	808
J128	132.0		4.15	2.00	6.0	136.0	378	3.0	69.0	816	802
J130	134.0		4.15	2.00	6.0	138.0	374	3.0	69.0	829	801
J132	136.0		4.15	2.00	6.0	140.0	366	3.0	68.0	842	789
J135	139.0		4.15	2.00	6.0	143.0	358	3.0	67.0	860	781
J138	141.0		4.15	2.00	6.0	145.0	356	3.0	67.0	874	780
J138	142.0		4.15	2.00	6.0	146.0	352	3.0	66.5	880	775
J140	144.0		4.15	2.00	6.0	148.0	350	3.0	66.5	892	775
J142	146.0		4.15	2.00	6.0	150.0	342	3.0	65.5	905	764
J145	149.0		4.15	2.00	6.0	153.0	336	3.0	65.0	923	757
J148	151.0		4.15	2.00	6.0	156.0	336	3.0	65.0	936	757
J148	152.0		4.15	2.00	6.0	157.0	331	3.0	64.5	942	753
J150	155.0		4.15	2.50	7.5	191.0	326	3.0	64.0	1198	748
J152	157.0		4.15	2.50	7.5	202.0	326	3.5	55.0	1212	747
J155	160.0		4.15	2.50	7.5	206.0	324	3.5	55.0	1237	743
J158	162.0		4.15	2.50	7.5	208.0	328	3.5	55.5	1251	752
J158	163.0		4.15	2.50	7.5	210.0	326	3.5	55.0	1260	747
J160	165.0		4.15	2.50	7.5	212.0	321	3.5	54.5	1275	737
J162	167.0		4.15	2.50	7.5	215.0	321	3.5	54.5	1290	736
J165	170.0		4.15	2.50	7.5	219.0	319	3.5	54.0	1315	732
J168	172.0		4.15	2.50	7.5	221.0	355	3.5	60.0	1330	814
J168	173.0		4.15	2.50	7.5	223.0	353	3.5	60.0	1339	810
J170	175.0		4.15	2.50	7.5	225.0	349	3.5	59.0	1355	800
J172	177.0		4.15	2.50	7.5	228.0	357	3.5	60.0	1370	818
J175	180.0		4.15	2.50	7.5	232.0	351	3.5	59.0	1393	804
J178	182.0	+0.72	4.15	2.50	7.5	235.0	346	3.5	58.5	1410	794
J178	183.0		4.15	2.50	7.5	236.0	344	3.5	58.0	1418	789
J180	185.0		4.15	2.50	7.5	238.0	347	3.5	58.5	1432	796
J182	187.0		4.15	2.50	7.5	241.0	355	3.5	60.0	1449	814
J185	190.0		4.15	2.50	7.5	245.0	349	3.5	59.0	1471	800
J188	192.0		4.15	2.50	7.5	248.0	345	3.5	58.5	1490	792
J188	193.0		4.15	2.50	7.5	249.0	343	3.5	58.0	1495	786
J190	195.0		4.15	2.50	7.5	251.0	340	3.5	57.5	1510	779

Rings for bores

DIN 472 / D1300 / J

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	C_1	C_2	Weight [lbs / 1000]
192	J192	4.00	- 0.10	201.5	+1.70	14.2	13.8	4.0	162.0	168.6	178.0
195	J195	4.00		204.5	- 0.72	14.2	13.8	4.0	165.2	171.0	183.0
197	J198	4.00		207.5		14.2	14.0	4.0	166.0	173.6	190.0
198	J198	4.00		207.5		14.2	14.0	4.0	168.0	174.6	190.0
200	J200	4.00		209.5		14.2	14.0	4.0	170.2	176.0	195.0
202	J202	5.00	- 0.12	214.0		14.2	14.0	4.0	172.0	179.6	210.0
205	J205	5.00		217.0		14.2	14.0	4.0	175.0	182.6	225.0
207	J205	5.00		217.0		14.2	14.0	4.0	177.0	184.6	225.0
208	J210	5.00		222.0		14.2	14.0	4.0	178.0	185.6	270.0
210	J210	5.00		222.0		14.2	14.0	4.0	180.2	187.0	270.0
212	J212	5.00		222.0		14.2	14.0	4.0	182.0	189.6	270.0
215	J215	5.00		227.0		14.2	14.0	4.0	185.0	192.6	300.0
217	J215	5.00		227.0		14.2	14.0	4.0	187.0	194.6	300.0
218	J220	5.00		232.0		14.2	14.0	4.0	188.0	195.6	315.0
220	J220	5.00		232.0		14.2	14.0	4.0	190.2	197.0	315.0
222	J222	5.00		232.0		14.2	14.0	4.0	192.0	199.6	315.0
225	J225	5.00		237.0		14.2	14.0	4.0	195.0	202.6	323.0
227	J225	5.00		237.0		14.2	14.0	4.0	195.0	204.6	323.0
228	J230	5.00		242.0		14.2	14.0	4.0	198.0	205.6	330.0
230	J230	5.00		242.0		14.2	14.0	4.0	200.2	207.0	330.0
232	J232	5.00		242.0	+2.00	14.2	14.0	4.0	202.0	209.6	330
235	J235	5.00		247.0	- 0.81	14.2	14.0	4.0	205.0	212.6	338
237	J235	5.00		247.0		14.2	14.0	4.0	207.0	214.6	338
238	J240	5.00		252.0		14.2	14.0	4.0	208.0	215.6	345
240	J240	5.00		252.0		14.2	14.0	4.0	210.2	217.0	345
242	J242	5.00		252.0		14.2	14.0	4.0	212.0	219.6	345
245	J245	5.00		257.0		14.2	14.0	4.0	215.0	222.6	353
247	J245	5.00		257.0		14.2	14.0	4.0	217.0	224.6	353
248	J250	5.00		262.0		14.2	14.0	4.0	218.0	225.6	360
250	J250	5.00		262.0		14.2	14.0	4.0	220.2	227.0	360
252	J252	5.00		262.0		14.2	16.0	5.0	222.0	231.6	360
255	J255	5.00		270.0		16.2	16.0	5.0	221.0	230.6	368
257	J255	5.00		270.0		16.2	16.0	5.0	223.0	232.6	368
258	J260	5.00		275.0		16.2	16.0	5.0	224.0	233.6	375
260	J260	5.00		275.0		16.2	16.0	5.0	226.0	235.0	375
262	J262	5.00		275.0		16.2	16.0	5.0	228.0	237.6	375
265	J265	5.00		280.0		16.2	16.0	5.0	231.0	240.6	383
267	J265	5.00		280.0		16.2	16.0	5.0	233.0	242.6	383
268	J270	5.00		285.0		16.2	16.0	5.0	234.0	243.6	388
270	J270	5.00		285.0		16.2	16.0	5.0	236.0	245.0	388



DIN

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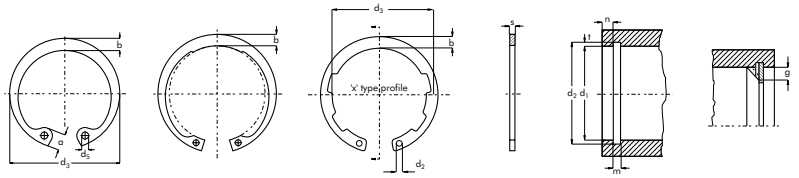
DIN 472 / D1300 / J

					DATA						
Part Number	d_2	Tolerance	m min.	t	n min	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	K [kN•mm⁸]
J192	197.0	+0.72	4.15	2.50	7.5	254.0	336	3.5	57.0	1528	770
J195	200.0		4.15	2.50	7.5	258.0	330	3.5	55.5	1550	756
J198	202.0		4.15	2.50	7.5	260.0	330	3.5	55.5	1565	756
J198	203.0		4.15	2.50	7.5	262.0	329	3.5	55.5	1575	754
J200	205.0		4.15	2.50	7.5	265.0	325	3.5	55.0	1590	745
J202	208.0		5.15	3.00	9.0	321.0	625	4.0	92.5	1930	1432
J205	211.0		5.15	3.00	9.0	326.0	616	4.0	91.5	1960	1411
J205	213.0		5.15	3.00	9.0	329.0	610	4.0	90.0	1979	1399
J210	214.0		5.15	3.00	9.0	331.0	607	4.0	90.0	1990	1392
J210	216.0		5.15	3.00	9.0	333.0	601	4.0	89.5	2002	1378
J212	218.0		5.15	3.00	9.0	337.0	596	4.0	88.5	2025	1367
J215	221.0		5.15	3.00	9.0	341.0	586	4.0	87.0	2050	1343
J215	223.0		5.15	3.00	9.0	345.0	581	4.0	86.0	2072	1331
J220	224.0		5.15	3.00	9.0	346.0	580	4.0	86.0	2080	1329
J220	226.0		5.15	3.00	9.0	349.0	574	4.0	85.0	2095	1316
J222	228.0		5.15	3.00	9.0	353.0	568	4.0	84.0	2120	1303
J225	231.0		5.15	3.00	9.0	357.0	560	4.0	83.0	2145	1283
J225	233.0		5.15	3.00	9.0	361.0	555	4.0	82.0	2170	1271
J230	234.0		5.15	3.00	9.0	362.0	554	4.0	82.0	2175	1268
J230	236.0		5.15	3.00	9.0	365.0	549	4.0	81.0	2196	1259
J232	238		5.15	3.00	9.0	369	544	4.0	80.50	2215	1246
J235	241		5.15	3.00	9.0	373	536	4.0	79.50	2240	1229
J235	243		5.15	3.00	9.0	376	531	4.0	79.00	2260	1217
J240	244		5.15	3.00	9.0	378	530	4.0	79.00	2270	1214
J240	246		5.15	3.00	9.0	380	525	4.0	77.50	2285	1204
J242	248		5.15	3.00	9.0	385	521	4.0	77.00	2310	1194
J245	251	+0.81	5.15	3.00	9.0	389	514	4.0	76.50	2335	1178
J245	253		5.15	3.00	9.0	392	509	4.0	76.00	2365	1167
J250	254		5.15	3.00	9.0	394	507	4.0	75.50	2365	1163
J250	256		5.15	3.00	9.0	396	504	4.0	75.00	2380	1155
J252	260		5.15	4.00	12.0	535	557	4.0	83.00	3215	1277
J255	263		5.15	4.00	12.0	541	549	4.0	81.50	3250	1259
J255	265		5.15	4.00	12.0	546	545	4.0	81.00	3280	1249
J260	266		5.15	4.00	12.0	548	543	4.0	80.50	3290	1244
J260	268		5.15	4.00	12.0	553	538	4.0	80.00	3320	1234
J262	270		5.15	4.00	12.0	556	535	4.0	79.00	3340	1227
J265	273		5.15	4.00	12.0	563	528	4.0	78.50	3380	1210
J265	275		5.15	4.00	12.0	566	524	4.0	78.00	3400	1201
J270	276		5.15	4.00	12.0	570	522	4.0	77.50	3420	1196
J270	278		5.15	4.00	12.0	573	518	4.0	77.00	3440	1188

Rings for bores

DIN 472 / D1300 / J

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	C_1	C_2	Weight [lbs / 1000]
272	J272	5.00	- 0.12	285.0	+2.00	16.2	16.0	5.0	238.0	247.6	388
275	J275	5.00		290.0	- 0.81	16.2	16.0	5.0	241.0	250.6	393
277	J275	5.00		290.0		16.2	16.0	5.0	243.0	252.6	393
278	J280	5.00		295.0		16.2	16.0	5.0	244.0	253.6	400
280	J280	5.00		295.0		16.2	16.0	5.0	246.0	255.0	400
282	J282	5.00		295.0		16.2	16.0	5.0	248.0	257.6	400
285	J285	5.00		300.0		16.2	16.0	5.0	251.0	260.0	408
287	J285	5.00		300.0		16.2	16.0	5.0	253.0	262.6	408
288	J290	5.00		305.0		16.2	16.0	5.0	254.0	263.6	415
290	J290	5.00		305.0		16.2	16.0	5.0	256.0	265.0	415
292	J292	5.00		305.0		16.2	16.0	5.0	258.0	267.6	415
295	J295	5.00		310.0		16.2	16.0	5.0	261.0	270.6	426
297	J295	5.00		310.0		16.2	16.0	5.0	263.0	272.6	426
298	J300	5.00		315.0		16.2	16.0	5.0	264.0	273.6	435
300	J300	5.00		315.0		16.2	16.0	5.0	266.0	275.0	435
305	J305	6.00	- 0.15	322.0	+2.00		20.0	6.0			755
310	J310	6.00		327.0	- 0.90		20.0	6.0			770
315	J315	6.00		332.0			20.0	6.0			785
320	J320	6.00		337.0			20.0	6.0			800
325	J325	6.00		342.0			20.0	6.0			810
330	J330	6.00		347.0			20.0	6.0			820
335	J335	6.00		352.0			20.0	6.0			830
340	J340	6.00		357.0			20.0	6.0			840
345	J345	6.00		362.0			20.0	6.0			855
350	J350	6.00		367.0			20.0	6.0			870
355	J355	6.00		372.0			20.0	6.0			880
360	J360	6.00		377.0			20.0	6.0			890
365	J365	6.00		382.0			20.0	6.0			906
370	J370	6.00		387.0			20.0	6.0			920
375	J375	6.00		392.0			20.0	6.0			932
380	J380	6.00		397.0			20.0	6.0			940
385	J385	6.00		402.0	+2.00		20.0	6.0			950
390	J390	6.00		407.0	- 1.00		20.0	6.0			960
395	J395	6.00		412.0			20.0	6.0			972
400	J400	6.00		417.0			20.0	6.0			980
410	J410	7.00		430.0			26.0	6.0			1380
420	J420	7.00		440.0			26.0	6.0			1410
430	J430	7.00		450.0			26.0	6.0			1440
440	J440	7.00		460.0			26.0	6.0			1470
450	J450	7.00		470.0			26.0	6.0			1510



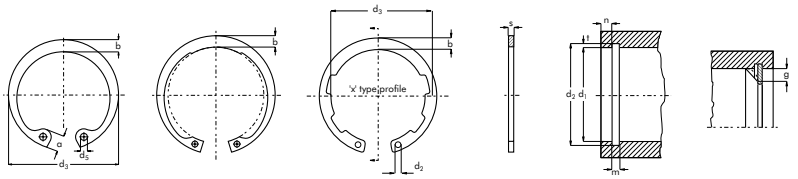
DIN 472 / D1300 / J

					DATA						
Part Number	d_2	Tolerance	m min.	t	n min	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	K [kN•mm⁸]
J272	280	+0.81	5.15	4.00	12.0	577	515	4.0	76.50	3465	1180
J275	283		5.15	4.00	12.0	585	509	4.0	75.50	3510	1167
J275	285		5.15	4.00	12.0	587	505	4.0	75.00	3525	1158
J280	286		5.15	4.00	12.0	590	504	4.0	75.00	3540	1154
J280	288		5.15	4.00	12.0	593	499	4.0	74.00	3560	1145
J282	290		5.15	4.00	12.0	599	497	4.0	74.00	3595	1138
J285	293		5.15	4.00	12.0	605	491	4.0	73.00	3630	1124
J285	295		5.15	4.00	12.0	610	487	4.0	72.00	3660	1117
J290	296		5.15	4.00	12.0	611	485	4.0	72.00	3670	1111
J290	298		5.15	4.00	12.0	615	482	4.0	71.50	3695	1104
J292	300		5.15	4.00	12.0	620	479	4.0	71.00	3720	1098
J295	303		5.15	4.00	12.0	625	474	4.0	70.50	3755	1087
J295	305		5.15	4.00	12.0	630	471	4.0	70.50	3780	1079
J300	306		5.15	4.00	12.0	631	469	4.0	69.50	3790	1075
J300	308		5.15	4.00	12.0	636	466	4.0	69.00	3820	1068
J305	315		6.20	5.00	15.0	810	961	5.0	114.00	4860	2202
J310	320	+0.89	6.20	5.00	15.0	823	947	5.0	113.00	4940	2169
J315	325		6.20	5.00	15.0	837	934	5.0	111.00	5027	2140
J320	330		6.20	5.00	15.0	850	919	5.0	109.00	5100	2105
J325	335		6.20	5.00	15.0	864	906	5.0	108.00	5184	2076
J330	340		6.20	5.00	15.0	876	894	5.0	106.00	5260	2048
J335	345		6.20	5.00	15.0	890	880	5.0	105.00	5341	2017
J340	350		6.20	5.00	15.0	903	869	5.0	104.00	5420	1991
J345	355		6.20	5.00	15.0	916	857	5.0	102.00	5498	1964
J350	360		6.20	5.00	15.0	929	846	5.0	101.00	5575	1938
J355	365		6.20	5.00	15.0	942	834	5.0	99.00	5655	1910
J360	370		6.20	5.00	15.0	955	823	5.0	98.00	5730	1886
J365	375		6.20	5.00	15.0	968	813	5.0	97.00	5812	1862
J370	380		6.20	5.00	15.0	981	803	5.0	95.00	5890	1839
J375	385		6.20	5.00	15.0	994	793	5.0	94.00	5969	1817
J380	390		6.20	5.00	15.0	1008	784	5.0	93.00	6050	1796
J385	395		6.20	5.00	15.0	1021	774	5.0	92.00	6126	1774
J390	400		6.20	5.00	15.0	1033	764	5.0	91.00	6200	1751
J395	405	+1.00	6.20	5.00	15.0	1047	756	5.0	90.00	6283	1732
J400	410		6.20	5.00	15.0	1060	746	5.0	89.00	6360	1710
J410	422		7.20	6.00	18.0	1307	1512	6.0	150.00	7842	3463
J420	432		7.20	6.00	18.0	1338	1480	6.0	147.00	8030	3391
J430	442		7.20	6.00	18.0	1369	1446	6.0	144.00	8219	3312
J440	452		7.20	6.00	18.0	1401	1418	6.0	141.00	8407	3248
J450	462		7.20	6.00	18.0	1431	1388	6.0	138.00	8590	3180

Rings for bores

DIN 472 / D1300 / J

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	C_1	C_2	Weight [lbs / 1000]
460	J460	7.00	- 0.15	480.0	+2.00		26.0	6.0			1550
470	J470	7.00		490.0	- 1.00		26.0	6.0			1595
480	J480	7.00		500.0			26.0	6.0			1640
490	J490	7.00		510.0	+3.00		26.0	6.0			1685
500	J500	7.00		520.0	- 1.50		26.0	6.0			1730
510	J510	8.00		535.0			26.0	6.0			2250
520	J520	8.00		545.0			26.0	6.0			2290
530	J530	8.00		555.0			26.0	6.0			2335
540	J540	8.00		565.0			26.0	6.0			2380
550	J550	8.00		575.0			26.0	6.0			2430
560	J560	8.00		585.0			26.0	6.0			2495
570	J570	8.00		595.0			26.0	6.0			2560
580	J580	8.00		605.0			26.0	6.0			2625
590	J590	8.00		615.0			26.0	6.0			2700
600	J600	8.00		625.0			26.0	6.0			2770
650	J650	9.00	- 0.20	680.0			34.0	6.0			3600
700	J700	9.00		730.0	+4.00		34.0	6.0			4120
750	J750	9.00		785.0	- 2.00		34.0	9.0			4540
800	J800	9.00		835.0			34.0	9.0			5450
850	J850	9.00		890.0			34.0	9.0			5990
900	J900	9.00		940.00			34.0	9.0			6740
950	J950	9.00		1000.00			34.0	9.0			7930
1000	J1000	9.00		1050.00			34.0	9.0			8880



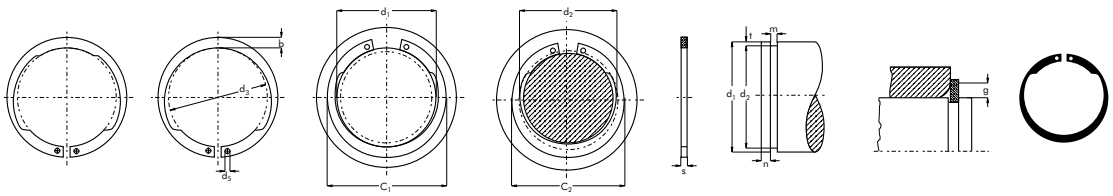
DIN 472 / D1300 / J

					DATA						
Part Number	d_2	Tolerance	m min.	t	n min	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	K [kN•mm⁸]
J460	472	+1.00	7.20	6.00	18.0	1464	1360	6.0	135.00	8784	3116
J470	482		7.20	6.00	18.0	1495	1330	6.0	132.00	8973	3048
J480	492		7.20	6.00	18.0	1526	1306	6.0	130.00	9161	2991
J490	502		7.20	6.00	18.0	1558	1280	6.0	127.00	9349	2931
J500	512		7.20	6.00	18.0	1588	1256	6.0	125.00	9530	2878
J510	524		8.20	7.00	21.0	1894	1834	7.0	156.00	11369	4201
J520	534		8.20	7.00	21.0	1931	1802	7.0	153.00	11589	4128
J530	544		8.20	7.00	21.0	1968	1768	7.0	150.00	11810	4049
J540	554		8.20	7.00	21.0	2004	1738	7.0	148.00	12029	3981
J550	564		8.20	7.00	21.0	2014	1711	7.0	145.00	12250	3919
J560	574		8.20	7.00	21.0	2078	1682	7.0	143	12469	3852
J570	584		8.20	7.00	21.0	2114	1650	7.0	141	12689	3790
J580	594		8.20	7.00	21.0	2151	1627	7.0	138	12909	3728
J590	604		8.20	7.00	21.0	2188	1601	7.0	136	13129	3668
J600	614		8.20	7.00	21.0	2221	1571	7.0	134	13330	3598
J650	666		9.30	8.00	24.0	2753	2654	7.0	226	16520	6078
J700	716		9.30	8.00	24.0	2966	2471	7.0	210	17800	5661
J750	768		9.30	9.00	27.0	3566	2310	7.0	196	21400	5285
J800	818		9.30	9.00	27.0	3800	2176	7.0	184	22800	4980
J850	870		9.30	10.00	30.0	4500	2045	7.0	173	27000	4680
J900	920		9.30	10.00	30.0	4766	1938	7.0	164	28600	4435
J950	972		9.30	11.00	33.0	5608	1840	7.0	156	33650	4210
J1000	1022		9.30	11.00	33.0	5825	1752	7.0	148	34950	4010

V-Rings for shafts

M1408 / AV

d_1	Part Number	s	Tolerance	d_3	Tolerance	b ≈	Tolerance	d_5 min.	C_1	C_2	Weight [kg / 1000]
10	AV10	0.60	- 0.05	9.2	+0.10	1.8	±0.1	1.0	13.9	13.3	0.25
12	AV12	1.00	- 0.06	11.0	- 0.36	2.1		1.3	16.5	15.9	0.50
13	AV13	1.00		11.9		2.1		1.3	17.5	16.8	0.56
14	AV14	1.00		12.9		2.1		1.3	18.5	17.8	0.58
15	AV15	1.00		13.8		2.2		1.3	20.1	19.3	0.66
16	AV16	1.00		14.7		2.3		1.3	21.3	20.4	0.72
17	AV17	1.00		15.7		2.4		1.3	22.1	21.2	0.81
18	AV18	1.20		16.5		2.6		1.5	23.5	22.4	1.14
20	AV20	1.20		18.5	+0.13	2.8		1.5	25.9	24.8	1.43
21	AV21	1.20		19.35	- 0.42	2.8		1.5	27.0	25.8	1.53
22	AV22	1.20		20.5		3.0		1.5	28.7	27.2	1.63
23	AV23	1.20		21.5	+0.21	3.1		1.5	29.5	28.4	1.78
24	AV24	1.20		22.2	- 0.42	3.2		1.5	30.7	29.5	1.90
25	AV25	1.20		23.2		3.4		1.5	32.7	31.5	2.10
26	AV26	1.20		24.2		3.5		1.5	33.3	32.1	2.18
28	AV28	1.50		25.9		3.8		2.0	35.9	34.4	3.18
30	AV30	1.50		27.9		3.9		2.0	38.1	36.6	3.58
32	AV32	1.50		29.6		4.0		2.0	40.3	38.5	3.88
34	AV34	1.50		31.5	+0.25	3.5		2.0	41.3	39.5	3.60
35	AV35	1.50		32.2	- 0.50	4.2		2.0	43.7	41.6	4.53
38	AV38	1.75		34.5		4.5		2.0	47.6	45.0	5.50
40	AV40	1.75		36.5	+0.39	4.7	±0.2	2.0	50.0	47.3	6.49
42	AV42	1.75		38.5	- 0.90	4.7		2.0	52.0	49.3	6.51
45	AV45	1.75		41.5		4.7		2.0	55.0	52.3	7.80
47	AV47	1.75		43.5		5.0		2.0	57.6	54.9	8.09
48	AV48	1.75		44.5		5.2		2.0	59.0	56.3	8.48
50	AV50	2.00	- 0.07	45.8		5.2		2.5	61.0	57.8	9.84
55	AV55	2.00		50.8	+0.46	5.8		2.5	67.2	64.0	11.42
58	AV58	2.00		53.8	- 1.10	5.8		2.5	70.2	67.0	13.00
60	AV60	2.00		55.8		5.8		2.5	72.2	69.0	13.80
65	AV65	2.50		60.8		6.0	±0.3	2.5	77.8	74.6	20.75
70	AV70	2.50		65.5		6.5		2.5	83.8	80.6	23.70
72	AV72	2.50		67.5		6.5		2.5	85.8	82.6	24.70
75	AV75	2.50		70.5		6.5		2.5	88.8	85.6	27.50
80	AV80	2.50		74.5		7.0		2.5	94.8	91.1	28.90
82	AV82	2.50		76.5		7.0		2.5	96.8	93.1	29.65
85	AV85	3.00	- 0.08	79.5		7.4		3.0	100.6	96.9	39.50
87	AV87	3.00		81.5	+0.54	7.4		3.0	102.6	98.9	40.00
90	AV90	3.00		84.5	- 1.300	7.4		3.0	105.6	101.9	41.92
95	AV95	3.00		89.5		8.0		3.0	111.8	108.1	47.70
100	AV100	3.00		94.5		8.0		3.0	116.8	113.1	49.92



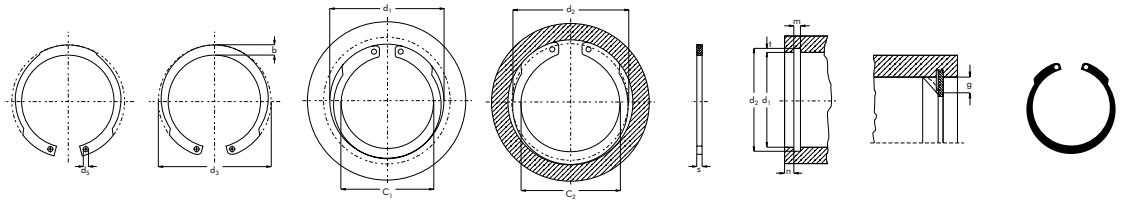
M1408 / AV

					DATA							
Part Number	d_2	Tolerance	m min.	t	n	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	K [kN•mm²]	$n^{det.}$ x1000 [rpm]
AV10	9.5	- 0.11	0.70	0.25	0.7	0.62	1.4	1.0	1.0	3.8	5.7	84
AV12	11.5		1.10	0.25	0.7	0.70	4.5	1.0	2.4	4.2	21.6	79
AV13	12.4		1.10	0.30	0.9	0.90	5.5	1.0	2.4	5.4	20.8	64
AV14	13.4		1.10	0.30	0.9	0.97	6.0	1.0	2.4	5.8	19.2	56
AV15	14.3		1.10	0.35	1.0	1.22	6.5	1.0	2.4	7.3	19.3	50
AV16	15.2		1.10	0.40	1.2	1.48	7.0	1.0	2.5	8.9	18.7	45
AV17	16.2		1.10	0.40	1.2	1.57	8.1	1.0	2.6	9.4	18.2	41
AV18	17.0		1.30	0.50	1.5	2.07	14.8	1.5	3.2	12.4	32.6	39
AV20	19.0	- 0.15	1.30	0.50	1.5	2.30	14.6	1.5	3.1	13.8	30.1	32
AV21	20.0		1.30	0.50	1.5	2.42	14.4	1.5	3.1	14.5	29.9	29
AV22	21.0		1.30	0.50	1.5	2.53	14.2	1.5	3.1	15.2	29.7	27
AV23	22.0		1.30	0.50	1.5	2.66	14.0	1.5	3.1	16.0	29.0	25
AV24	22.9	- 0.21	1.30	0.55	1.6	3.03	14.0	1.5	3.1	18.2	28.8	27
AV25	23.9		1.30	0.55	1.6	3.18	14.1	1.5	3.2	19.1	28.8	25
AV26	24.9		1.30	0.55	1.6	3.30	14.1	1.5	3.2	19.8	28.4	25
AV28	26.6		1.60	0.70	2.1	4.50	28.0	1.5	6.4	27.0	56.0	22
AV30	28.6		1.60	0.70	2.1	4.86	27.5	1.5	6.3	29.2	53.5	19
AV32	30.3	- 0.25	1.60	0.85	2.5	6.25	27.0	2.0	4.7	37.0	52.0	17
AV34	32.3		1.60	0.85	2.5	6.67	26.6	2.0	4.6	40.0	50.5	15
AV35	33.0		1.60	1.00	2.5	8.00	26.6	2.0	4.6	48.0	50.1	16
AV38	35.8		1.85	1.10	3.3	10.60	42.0	2.0	7.8	64.0	77.0	15
AV40	37.5		1.85	1.25	3.8	12.60	42.0	2.0	7.8	75.0	77.0	15
AV42	39.5		1.85	1.25	3.8	13.30	42.0	2.0	7.8	80.0	76.0	13
AV45	42.5		1.85	1.25	3.8	14.30	41.5	2.0	7.8	86.0	75.0	11
AV47	44.5		1.85	1.25	3.8	15.00	41.0	2.0	7.8	90.0	73.5	10
AV48	45.5		1.85	1.25	3.8	15.80	41.0	2.0	7.8	95.0	73.5	10
AV50	47.0		2.15	1.50	4.5	19.20	58.0	2.0	11.6	115.0	108.0	10
AV55	52.0	- 0.30	2.15	1.50	4.5	21.00	58.0	2.5	9.3	126.0	104.0	9
AV58	55.0		2.15	1.50	4.5	22.20	56.0	2.5	9.2	133.0	100.0	8
AV60	57.0		2.15	1.50	4.5	23.00	55.5	2.5	9.1	138.0	99.0	7
AV65	62.0		2.65	1.50	4.5	24.80	104.0	2.5	17.6	149.0	187.0	6
AV70	67.0		2.65	1.50	4.5	27.00	103.0	2.5	17.6	162.0	185.0	6
AV72	69.0		2.65	1.50	4.5	27.70	104.0	2.5	18.0	166.0	187.0	6
AV75	72.0		2.65	1.50	4.5	29.20	100.0	2.5	17.7	175.0	182.0	5
AV80	76.5		2.65	1.75	5.3	36.60	96.0	3.0	14.6	220.0	175.0	6
AV82	78.5	- 0.35	2.65	1.75	5.3	37.40	100.0	3.0	15.4	225.0	184.0	5
AV85	81.5		3.15	1.75	5.3	38.30	167.0	3.0	25.6	230.0	300.0	5
AV87	83.5		3.15	1.75	5.3	39.20	164.0	3.0	25.5	235.0	297.0	5
AV90	86.5		3.15	1.75	5.3	41.70	157.0	3.0	24.8	250.0	288.0	4
AV95	91.5		3.15	1.75	5.3	42.70	152.0	3.5	21.0	256.0	285.0	4
AV100	96.5		3.15	1.75	5.3	45.80	144.0	3.5	20.5	275.0	276.0	4

V-Rings for bores

M1308 / JV

d_1	Part Number	s	Tolerance	d_3	Tolerance	b	Tolerance	d_5 min.	C_1	C_2	Weight [kg / 1000]
10	JV10	0.60	- 0.05	10.9	+0.42	1.5	±0.1	0.9	6.7	7.3	0.15
12	JV12	0.60		13.1	-0.13	1.8		1.0	8.1	8.8	0.25
15	JV15	0.80		16.1		2.0		1.0	10.7	11.5	0.41
16	JV16	1.00	- 0.06	17.3		2.1		1.3	11.5	12.4	0.53
17	JV17	1.00		18.3		2.1		1.3	12.5	13.4	0.58
18	JV18	1.00		19.5		2.2		1.3	13.3	14.4	0.62
19	JV19	1.00		20.5		2.2		1.3	14.3	15.4	0.66
20	JV20	1.00		21.5		2.3		1.3	15.1	16.2	0.80
21	JV21	1.00		22.5		2.4		1.3	15.9	17.0	0.81
22	JV22	1.00		23.5		2.4		1.3	16.9	18.0	0.83
24	JV24	1.20		25.9	+0.42	2.8		1.5	18.1	19.4	1.30
25	JV25	1.20		26.9	-0.21	2.8		1.5	18.9	20.2	1.40
26	JV26	1.20		27.9		3.0		1.5	19.7	21.0	1.50
27	JV27	1.20		29.1		3.0		1.5	20.7	22.2	1.53
28	JV28	1.20		30.1	+0.50	3.1		1.5	21.5	23.0	1.80
30	JV30	1.20		32.1	-0.25	3.2		1.5	23.3	24.8	2.03
32	JV32	1.20		34.4		3.3		1.5	25.1	26.9	2.05
33	JV33	1.20		35.5		3.3		1.5	26.1	27.9	2.35
35	JV35	1.50		37.8		3.4		1.7	27.9	30.0	3.20
36	JV36	1.50		38.8		3.6		1.7	28.5	30.6	3.23
38	JV38	1.50		40.8		3.8		1.7	30.1	32.2	3.68
40	JV40	1.75		43.5	+0.90	4.2	±0.2	2.0	31.0	33.7	4.75
42	JV42	1.75		45.5	-0.39	4.2		2.0	33.0	35.7	5.20
45	JV45	1.75		48.5		4.2		2.0	35.6	38.7	6.00
47	JV47	1.75		50.5	+1.10	4.7		2.0	37.0	39.7	6.50
48	JV48	1.75		51.5	-0.46	4.7		2.0	38.0	40.7	7.00
50	JV50	2.00	- 0.07	54.2		5.2		2.5	39.0	42.2	8.50
52	JV52	2.00		56.2		5.2		2.5	41.0	44.2	9.00
55	JV55	2.00		59.2		5.2		2.5	44.0	47.2	10.00
57	JV57	2.00		61.2		5.2		2.5	46.0	49.2	10.25
58	JV58	2.00		62.2		5.2		2.5	47.0	50.2	10.50
60	JV60	2.00		64.2		5.2		2.5	49.0	52.2	11.25
62	JV62	2.00		66.2		5.2		2.5	51.0	54.2	11.75
65	JV65	2.50		69.2		5.7		2.5	52.2	56.0	16.25
67	JV67	2.50		71.5		5.7	±0.3	2.5	54.7	58.0	17.30



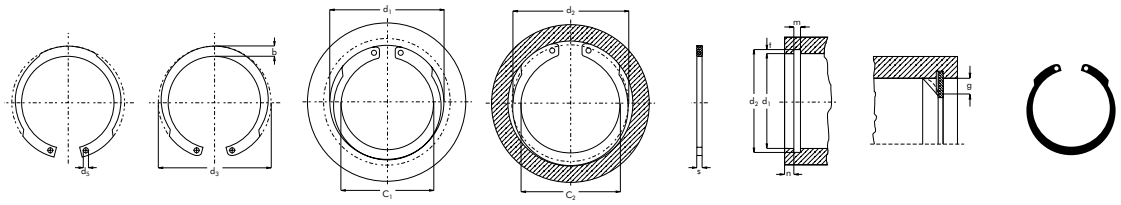
M1308 / JV

			DATA								
Part Number	d_2	Tolerance	m min.	t	n	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	K [kN / mm]
JV10	10.5	+0.11	0.70	0.25	0.7	0.52	1.7	0.5	1.0	3.1	5.7
JV12	12.6		0.70	0.30	0.9	0.75	1.8	0.8	1.0	4.5	5.5
JV15	15.7		0.90	0.35	1.0	1.33	3.3	1.0	1.9	8.0	11.0
JV16	16.8		1.10	0.40	1.2	1.67	5.2	1.0	3.1	10.0	22.7
JV17	17.8		1.10	0.40	1.2	1.70	5.8	1.0	3.0	11.0	21.2
JV18	19.0	+0.15	1.10	0.50	1.5	1.78	6.3	1.0	3.0	14.0	20.4
JV19	20.0		1.10	0.50	1.5	2.50	6.6	1.0	2.8	15.0	19.2
JV20	21.0		1.10	0.50	1.5	2.66	7.0	1.0	2.9	16.0	19.0
JV21	22.0		1.10	0.50	1.5	2.73	7.4	1.0	2.8	17.0	18.5
JV22	23.0		1.10	0.50	1.5	2.80	7.5	1.0	2.8	17.0	17.8
JV24	25.2	+0.21	1.30	0.60	1.8	3.68	14.5	1.0	4.8	22.0	29.9
JV25	26.2		1.30	0.60	1.8	4.00	14.8	1.0	5.0	24.0	30.6
JV26	27.2		1.30	0.60	1.8	4.17	15.3	1.0	5.2	25.0	31.4
JV27	28.4		1.30	0.70	2.1	5.00	15.0	1.0	5.1	30.0	29.9
JV28	29.4		1.30	0.70	2.1	5.10	15.3	1.0	5.2	31.0	30.4
JV30	31.4	+0.25	1.30	0.70	2.1	5.50	14.9	1.0	5.1	33.0	29.0
JV32	33.7		1.30	0.85	2.5	7.00	14.1	1.0	4.9	42.0	27.4
JV33	34.7		1.30	0.85	2.5	7.30	13.8	1.0	4.8	44.0	26.6
JV35	37.0		1.60	1.00	3.0	9.20	26.4	1.5	6.3	55.0	49.6
JV36	38.0		1.60	1.00	3.0	9.70	27.5	1.5	6.6	58.0	51.5
JV38	40.0		1.60	1.00	3.0	10.20	28.0	1.5	6.7	61.0	51.2
JV40	42.5		1.85	1.25	3.8	13.50	45.5	2.0	8.4	81.0	82.5
JV42	44.5		1.85	1.25	3.8	14.10	45.5	2.0	8.5	85.0	82.5
JV45	47.5		1.85	1.25	3.8	15.00	44.0	2.0	8.4	90.0	79.5
JV47	49.5		1.85	1.25	3.8	15.80	45.0	2.0	8.7	95.0	81.3
JV48	50.5	+0.30	1.85	1.25	3.8	16.00	48.0	2.0	9.1	96.0	85.8
JV50	53.0		2.15	1.50	4.5	20.00	69.0	2.0	13.4	120.0	124.0
JV52	55.0		2.15	1.50	4.5	20.80	66.5	2.0	13.3	125.0	121.0
JV55	58.0		2.15	1.50	4.5	22.20	66.0	2.0	13.3	133.0	118.0
JV57	60.0		2.15	1.50	4.5	23.00	65.0	2.0	13.1	138.0	115.0
JV58	61.0		2.15	1.50	4.5	23.30	64.0	2.0	12.9	140.0	113.0
JV60	63.0		2.15	1.50	4.5	24.20	62.0	2.0	12.7	145.0	111.0
JV62	65.0		2.15	1.50	4.5	25.00	60.0	2.0	12.3	150.0	107.0
JV65	68.0		2.65	1.50	4.5	25.80	122.0	2.5	20.6	155.0	218.0
JV67	70.0		2.65	1.50	4.5	26.80	122.0	2.5	20.8	161.0	218.0

V-Rings for bores

M1308 / JV

d_1	Part Number	s	Tolerance	d_3	Tolerance	b	Tolerance	d_5 min.	C_1	C_2	Weight [kg / 1000]
68	**JV68**	2.50	- 0.07	72.5	+1.10	5.7	±0.3	2.5	55.7	59.0	17.75
72	**JV72**	2.50		76.5	-0.46	6.0		2.5	59.1	62.4	19.60
80	**JV80**	2.50		85.5	+1.30	6.0		2.5	67.1	70.9	22.90
85	**JV85**	3.00	- 0.08	90.5	-0.54	6.6		3.0	70.9	74.7	30.00
90	**JV90**	3.00		95.5		6.6		3.0	75.3	79.7	33.00
95	**JV95**	3.00		100.5		7.4		3.0	78.7	83.1	37.50
100	**JV100**	3.00		105.5		7.4		3.0	83.6	88.1	41.90



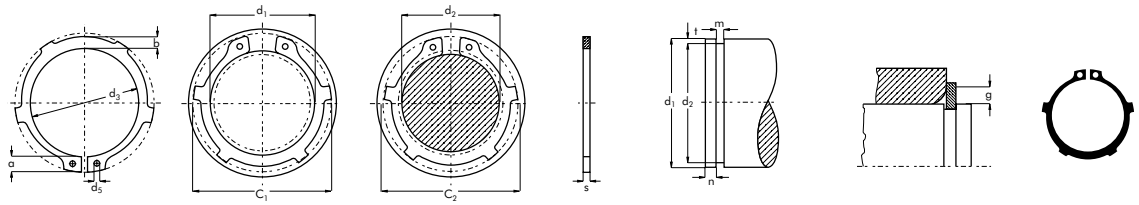
M1308 / JV

					DATA						
Part Number	d_2	Tolerance	m min.	t	n	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	K [kN / mm]
JV68	71.0	+0.30	2.65	1.50	4.5	27.20	123.0	2.5	21.0	163	220.0
JV72	75.0		2.65	1.50	4.5	28.80	119.0	2.5	20.8	173	214.0
JV80	83.5	+0.35	2.65	1.75	5.3	37.40	110.0	2.5	19.6	224	196.0
JV85	88.5		3.15	1.75	5.3	39.70	176.0	3.0	27.2	238	318.0
JV90	93.5		3.15	1.75	5.3	42.00	169.0	3.0	26.6	252	309.0
JV95	98.5		3.15	1.75	5.3	43.50	168.0	3.0	27.0	261	315.0
JV100	103.5		3.15	1.75	5.3	46.70	165.0	3.0	26.8	280	312.0

K-Rings for shafts

DIN 983 / D2100 / AK

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	C_1	C_2	Weight [kg / 1000]
16	AK16	1.00	-0.06	14.7	+0.10	3.5	2.3	1.7	23.2	22.2	0.82
17	AK17	1.00		15.7	-0.36	3.6	2.4	1.7	24.4	23.4	0.93
18	AK18	1.20		16.5		3.7	2.5	2.0	25.6	24.4	1.24
19	AK19	1.20		17.5		3.7	2.6	2.0	26.6	25.4	1.35
20	AK20	1.20		18.5	+0.13	3.8	2.6	2.0	27.8	26.6	1.45
22	AK22	1.20		20.5	-0.42	4.0	2.8	2.0	30.2	29.0	1.77
23	AK23	1.20		21.5		4.1	2.9	2.0	31.4	30.2	1.84
24	AK24	1.20		22.2		4.2	3.0	2.0	32.6	31.3	1.98
25	AK25	1.20		23.2	+0.21	4.3	3.0	2.0	33.8	32.5	2.12
26	AK26	1.20		24.2	-0.42	4.4	3.1	2.0	35.0	33.7	2.18
28	AK28	1.50		25.9		4.5	3.3	2.0	37.3	35.6	3.15
29	AK29	1.50		26.9		4.7	3.4	2.0	38.7	37.0	3.35
30	AK30	1.50		27.9		4.7	3.4	2.0	39.7	37.9	3.65
32	AK32	1.50		29.6		5.0	3.6	2.5	42.4	40.3	4.00
34	AK34	1.50		31.5		5.1	3.8	2.5	44.6	42.5	4.15
35	AK35	1.50		32.2	+0.25	5.2	3.8	2.5	45.8	43.4	4.38
37	AK37	1.75		34.2	-0.50	5.4	4.0	2.5	48.2	45.8	6.30
38	AK38	1.75		35.2		5.5	4.1	2.5	49.4	47.0	6.50
40	AK40	1.75		36.5	+0.39	7.2	4.2	2.5	54.9	51.9	7.00
42	AK42	1.75		38.5	-0.90	7.2	4.5	2.5	56.9	53.9	7.50
45	AK45	1.75		41.5		7.2	4.6	2.5	59.9	56.9	8.50
47	AK47	1.75		43.5		7.2	4.8	2.5	61.9	58.9	8.70
48	AK48	1.75		44.5		7.2	4.9	2.5	62.9	59.9	8.90
50	AK50	2.00	-0.07	45.8		8.2	5.0	2.5	67.0	63.4	11.55
55	AK55	2.00		50.8	+0.46	8.2	5.4	2.5	72.0	68.4	12.99
57	AK57	2.00		52.8	1.10	8.2	5.6	2.5	74.0	70.4	14.00
58	AK58	2.00		53.8		8.2	5.7	2.5	75.0	71.4	14.30
60	AK60	2.00		55.8		8.2	5.8	2.5	77.0	73.4	14.80
62	AK62	2.00		57.8		8.2	5.9	2.5	79.0	75.4	15.90
65	AK65	2.50		60.8		10.2	6.2	3.0	86.0	82.4	21.70
67	AK67	2.50		62.5		10.2	6.4	3.0	88.0	84.4	22.60
68	AK68	2.50		63.5		10.2	6.5	3.0	89.0	85.4	23.50
70	AK70	2.50		65.5		10.2	6.6	3.0	91.0	87.4	25.10
75	AK75	2.50		70.5		10.2	7.0	3.0	96.2	92.4	28.20
80	AK80	2.50		74.5		10.2	7.4	3.0	101.2	96.9	30.75



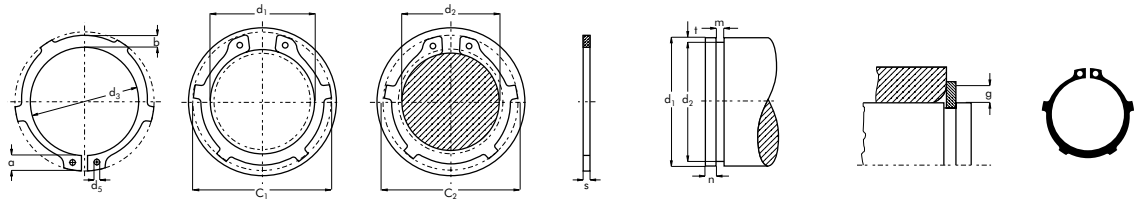
DIN 983 / D2100 / AK

					DATA								
Part Number	d_2	Tolerance	m min.	t	n	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	K [kN / mm]	Number of teeth	$n_{det.}$ x1000 (rpm)
AK16	15.2	-0.11	1.10	0.40	1.2	3.26	7.4	1.0	2.4	19.6	21.0	4	45
AK17	16.2		1.10	0.40	1.2	3.46	8.0	1.0	2.4	20.8	21.6	4	41
AK18	17.0		1.30	0.50	1.5	4.58	17.0	1.5	3.7	27.5	37.1	4	38
AK19	18.0		1.30	0.50	1.5	4.85	17.0	1.5	3.8	29.0	36.4	4	33
AK20	19.0	-0.15	1.30	0.50	1.5	5.06	17.1	1.5	3.8	30.6	36.3	4	30
AK22	21.0		1.30	0.50	1.5	5.65	16.9	1.5	3.8	33.8	35.4	4	26
AK23	22.0		1.30	0.50	1.5	5.90	16.6	1.5	3.8	35.4	34.7	4	24
AK24	22.9	-0.21	1.30	0.55	1.6	6.75	16.1	1.5	3.6	40.5	33.4	4	26
AK25	23.9		1.30	0.55	1.6	7.05	16.2	1.5	3.7	42.3	33.4	4	24
AK26	24.9		1.30	0.55	1.6	7.34	16.1	1.5	3.7	44.0	32.9	4	22
AK28	26.6		1.60	0.70	2.1	10.00	32.1	1.5	7.5	60.0	65.0	4	20
AK29	27.6		1.60	0.70	2.1	10.30	31.8	1.5	7.4	62.2	64.0	4	19
AK30	28.6		1.60	0.70	2.1	10.70	32.1	1.5	7.6	64.4	64.2	4	18
AK32	30.3	-0.25	1.60	0.85	2.5	13.80	31.2	2.0	5.5	83.1	61.8	4	16
AK34	32.3		1.60	0.85	2.5	14.70	31.3	2.0	5.6	88.3	61.3	4	16
AK35	33.0		1.60	1.00	3.0	17.80	30.8	2.0	5.5	106.0	60.1	4	15
AK37	35.0		1.85	1.00	3.0	18.80	50.0	2.0	9.1	113.0	96.4	4	13
AK38	36.0		1.85	1.00	3.0	19.30	49.5	2.0	9.1	116.0	95.0	4	13
AK40	37.5		1.85	1.25	3.8	25.30	51.0	2.0	9.5	152.0	96.9	4	14
AK42	39.5		1.85	1.25	3.8	26.70	50.0	2.0	9.4	160.0	93.7	4	13
AK45	42.5		1.85	1.25	3.8	28.60	49.0	2.0	9.3	172.0	91.0	4	11
AK47	44.5		1.85	1.25	3.8	30.00	49.5	2.0	9.5	180.0	90.7	4	10
AK48	45.5		1.85	1.25	3.8	30.70	49.4	2.0	9.5	184.0	90.0	4	9
AK50	47.0		2.15	1.50	4.5	38.00	73.3	2.0	14.4	228.0	133.0	4	10
AK55	52.0	-0.30	2.15	1.50	4.5	42.00	71.4	2.5	11.4	252.0	130.0	4	8
AK57	54.0		2.15	1.50	4.5	43.70	70.9	2.5	11.4	262.0	128.0	4	8
AK58	55.0		2.15	1.50	4.5	44.30	71.1	2.5	11.5	266.0	129.0	4	8
AK60	57.0		2.15	1.50	4.5	46.00	69.3	2.5	11.3	276.0	126.0	4	7
AK62	59.0		2.15	1.50	4.5	47.50	69.3	2.5	11.4	285.0	126.0	4	7
AK65	62.0		2.65	1.50	4.5	49.80	135.0	2.5	22.7	299.0	245.0	4	6
AK67	64.0		2.65	1.50	4.5	51.30	136.0	2.5	23.0	308.0	245.0	4	7
AK68	65.0		2.65	1.50	4.5	52.20	135.0	2.5	23.0	313.0	244.0	4	7
AK70	67.0		2.65	1.50	4.5	53.80	134.0	2.5	23.0	323.0	241.0	4	6
AK75	72.0		2.65	1.50	4.5	57.60	130.0	2.5	22.8	346.0	234.0	4	6
AK80	76.5		2.65	1.75	5.3	71.60	128.0	3.0	19.5	430.0	236.0	4	6

K-Rings for shafts

DIN 983 / D2100 / AK

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	C_1	C_2	Weight [kg / 1000]
85	**AK85**	3.00	-0.08	79.5	+0.46 -1.10	10.2	7.8	3.5	106.2	101.9	39.50
90	**AK90**	3.00		84.5		10.2	8.2	3.5	111.2	106.9	47.70
95	**AK95**	3.00		89.5	+0.54	10.2	8.6	3.5	116.2	111.9	53.00
100	**AK100**	3.00		94.5	-1.30	10.2	9.0	3.5	121.4	116.9	56.60
110	**AK110**	4.00	-0.10	103.0		12.2	9.6	3.5	135.4	130.4	84.60
120	**AK120**	4.00		113.0		14.2	10.1	3.5	149.6	144.4	89.70
130	**AK130**	4.00		123.0		14.2	10.7	4.0	159.7	154.4	105.00
140	**AK140**	4.00		133.0		14.2	11.2	4.0	169.8	164.4	115.00



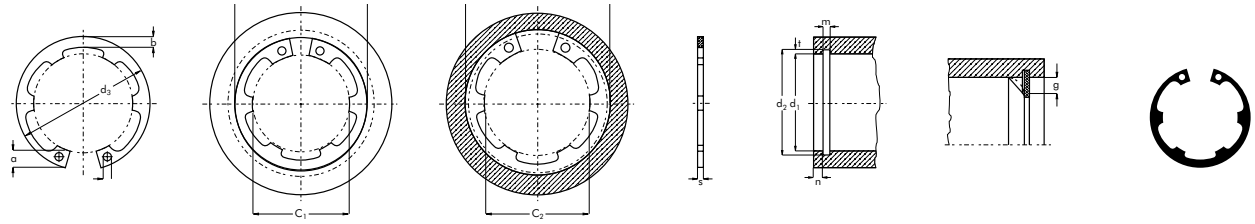
DIN 983 / D2100 / AK

					DATA								
Part Number	d_2	Tolerance	m min.	t	n	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	K [kN / mm]	Number of teeth	$n_{det.}$ x1000 (rpm)
AK85	81.5	-0.35	3.15	1.75	5.3	76.20	215.0	3.0	33.4	457.0	405.0	4	5
AK90	86.5		3.15	1.75	5.3	80.80	217.0	3.0	34.4	485.0	401.0	4	5
AK95	91.5		3.15	1.75	5.3	85.50	212.0	3.5	29.3	513.0	400.0	4	4
AK100	96.5		3.15	1.75	5.3	90.00	206.0	3.5	29.0	540.0	397.0	4	4
AK110	106.0	-0.54	4.15	2.00	6.0	113.00	457.0	3.5	66.9	678.0	914.0	4	4
AK120	116.0		4.15	2.00	6.0	123.00	424.0	3.5	64.5	741.0	882.0	4	4
AK130	126.0	-0.63	4.15	2.00	6.0	134.00	395.0	4.0	55.2	804.0	852.0	4	3
AK140	136.0		4.15	2.00	6.0	144.00	376.0	4.0	54.4	867.0	840.0	4	3

K-Rings for bores

DIN 984 / D2000 / JK

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	C_1	C_2	Weight [kg / 1000]
16	JK16	1.00	-0.06	17.3	+0.42	3.4	2.1	1.7	9.0	10.0	0.72
17	JK17	1.00		18.3	-0.13	3.7	2.2	1.7	9.4	10.4	0.80
18	JK18	1.00		19.5		4.1	2.3	2.0	9.6	10.8	0.90
19	JK19	1.00		20.5		3.8	2.3	2.0	11.2	12.4	0.99
20	JK20	1.00		21.5		3.9	2.4	2.0	12.0	13.2	1.06
21	JK21	1.00		22.5		4.0	2.4	2.0	12.8	14.0	1.17
22	JK22	1.00		23.5		4.0	2.6	2.0	13.8	15.0	1.28
23	JK23	1.20		24.6		4.1	2.6	2.0	14.6	15.9	1.48
24	JK24	1.20		25.9	+042	4.2	2.6	2.0	15.4	16.8	1.60
25	JK25	1.20		26.9	-0.21	4.4	2.8	2.0	16.0	17.4	1.72
26	JK26	1.20		28.5		4.4	2.8	2.0	17.0	18.4	2.00
27	JK27	1.20		29.1		4.5	2.9	2.0	17.8	19.4	2.00
28	JK28	1.20		30.1	+0.50	4.9	3.0	2.0	18.0	19.6	2.10
30	JK30	1.20		32.1	-0.25	4.9	3.2	2.0	20.0	21.6	2.35
31	JK31	1.20		33.4		5.0	3.2	2.5	20.8	22.7	2.42
32	JK32	1.20		34.4		5.1	3.3	2.5	21.5	23.5	2.50
33	JK33	1.20		35.5		5.1	3.3	2.5	22.5	24.5	2.65
34	JK34	1.50		36.5		5.3	3.4	2.5	23.1	25.1	3.80
35	JK35	1.50		37.8		5.5	3.6	2.5	23.7	26.0	4.00
36	JK36	1.50		38.8		5.6	3.6	2.5	24.5	26.8	4.15
38	JK38	1.50		40.8		6.1	3.8	2.5	25.5	27.8	4.40
40	JK40	1.75		43.5	+0.90	7.2	4.0	2.5	25.2	28.1	5.30
42	JK42	1.75		45.5	-0.39	7.2	4.1	2.5	27.2	30.1	6.00
44	JK44	1.75		47.5		7.2	4.2	2.5	29.3	32.1	6.45
45	JK45	1.75		48.5		7.2	4.3	2.5	30.3	33.1	6.60
47	JK47	1.75		50.5	+1.10	7.2	4.5	2.5	32.3	35.1	6.90
48	JK48	1.75		51.5	-0.46	7.2	4.5	2.5	33.3	36.1	7.50
50	JK50	2.00	-0.07	54.2		8.2	4.7	2.5	33.3	36.6	8.50
52	JK52	2.00		56.2		8.2	4.7	2.5	35.2	38.6	9.40
55	JK55	2.00		59.2		8.2	5.1	2.5	38.2	41.6	9.75
57	JK57	2.00		61.2		8.2	5.2	2.5	40.2	43.6	11.65
58	JK58	2.00		62.2		8.2	5.3	2.5	41.2	44.6	12.00
60	JK60	2.00		64.2		8.2	5.5	2.5	43.2	46.6	12.70
62	JK62	2.00		66.2		8.2	5.6	2.5	45.2	48.6	12.75
65	JK65	2.50		69.2		10.2	5.8	3.0	44.1	47.6	16.70



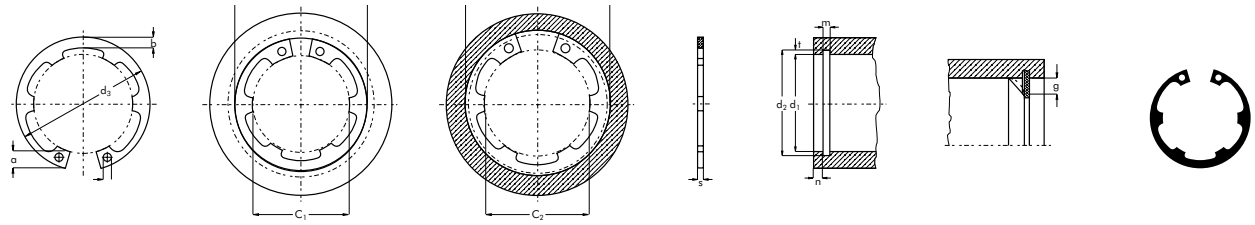
DIN 984 / D2000 / JK

					DATA							
Part Number	d_2	Tolerance	m min.	t	n	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	B	Number of teeth
JK16	16.8	+0.11	1.10	0.40	1.2	3.40	5.5	1.0	2.5	20.6	18.4	4
JK17	17.8		1.10	0.40	1.2	3.60	6.0	1.0	2.5	21.8	18.1	4
JK18	19.0	+0.15	1.10	0.50	1.5	4.80	6.5	1.0	2.6	29.0	18.2	4
JK19	20.0		1.10	0.50	1.5	5.10	6.8	1.0	2.6	30.6	17.2	4
JK20	21.0		1.10	0.50	1.5	5.40	7.2	1.0	2.6	32.2	16.9	4
JK21	22.0		1.10	0.50	1.5	5.70	7.6	1.0	2.6	33.8	17.2	4
JK22	23.0		1.10	0.50	1.5	5.90	8.0	1.0	2.7	35.3	17.6	4
JK23	24.1		1.30	0.55	1.6	6.80	13.8	1.0	4.5	40.7	28.8	4
JK24	25.2	+0.21	1.30	0.60	1.8	7.70	13.9	1.0	4.6	46.3	28.4	4
JK25	26.2		1.30	0.60	1.8	8.00	14.6	1.0	4.7	48.2	29.0	4
JK26	27.2		1.30	0.60	1.8	8.40	13.8	1.0	4.6	50.1	27.8	4
JK27	28.4		1.30	0.70	2.1	10.10	13.3	1.0	4.5	60.9	26.6	4
JK28	29.4		1.30	0.70	2.1	10.50	13.3	1.0	4.5	63.1	26.3	4
JK30	31.4	+0.25	1.30	0.70	2.1	11.30	13.7	1.0	4.6	67.5	26.6	4
JK31	32.7		1.30	0.85	2.5	14.10	13.8	1.0	4.7	84.8	26.8	4
JK32	33.7		1.30	0.85	2.5	14.60	13.8	1.0	4.7	87.9	26.6	4
JK33	34.7		1.30	0.85	2.5	15.00	14.3	1.5	4.9	90.3	27.0	4
JK34	35.7		1.60	0.85	2.5	15.40	26.2	1.5	6.3	92.6	50.0	4
JK35	37.0		1.60	1.00	3.0	18.80	26.9	1.5	6.4	113.0	50.5	4
JK36	38.0		1.60	1.00	3.0	19.40	26.4	1.5	6.4	116.0	50.2	4
JK38	40.0		1.60	1.00	3.0	22.50	28.2	1.5	6.7	123.0	51.7	4
JK40	42.5		1.85	1.25	3.8	27.00	44.6	2.0	8.3	162.0	80.1	4
JK42	44.5		1.85	1.25	3.8	28.40	44.7	2.0	8.4	170.0	80.9	4
JK44	46.5		1.85	1.25	3.8	29.50	43.3	2.0	8.3	177.0	78.6	4
JK45	47.5		1.85	1.25	3.8	30.20	43.1	2.0	8.2	181.0	78.1	4
JK47	49.5		1.85	1.25	3.8	31.40	43.5	2.0	8.3	189.0	78.9	4
JK48	50.5	+0.30	1.85	1.25	3.8	32.00	43.2	2.0	8.4	193.0	78.5	4
JK50	53.0		2.15	1.50	4.5	40.50	60.8	2.0	12.1	243.0	111.0	4
JK52	55.0		2.15	1.50	4.5	42.00	60.2	2.0	12.0	252.0	108.0	4
JK55	58.0		2.15	1.50	4.5	44.40	60.3	2.0	12.5	266.0	111.0	4
JK57	60.0		2.15	1.50	4.5	46.00	60.8	2.0	12.7	276.0	112.0	4
JK58	61.0		2.15	1.50	4.5	46.70	60.8	2.0	12.7	280.0	112.0	4
JK60	63.0		2.15	1.50	4.5	48.30	61.0	2.0	13.0	290.0	113.0	4
JK62	65.0		2.15	1.50	4.5	49.80	60.9	2.0	13.0	299.0	112.0	4
JK65	68.0		2.65	1.50	4.5	51.80	121.0	2.5	20.8	313.0	220.0	4

K-rings for bores

DIN 984 / D2000 / JK

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	C_1	C_2	Weight [kg / 1000]
67	JK67	2.50	- 0.07	71.5	+1.10	10.2	6.0	3.0	46.1	49.6	18.60
68	JK68	2.50		72.5	- 0.46	10.2	6.1	3.0	47.1	50.6	19.30
70	JK70	2.50		74.5		10.2	6.2	3.0	49.1	52.6	20.20
72	JK72	2.50		76.5		10.2	6.4	3.0	51.1	54.6	21.20
75	JK75	2.50		79.5		10.2	6.6	3.0	54.1	57.6	22.60
80	JK80	2.50		85.5	+1.30	10.2	7.0	3.0	59.1	63.1	25.00
85	JK85	3.00	- 0.08	90.5	- 0.54	12.2	7.4	3.5	60.1	64.1	30.10
90	JK90	3.00		95.5		12.2	7.7	3.5	65.1	69.1	35.50
95	JK95	3.00		100.5		12.2	8.1	3.5	70.1	74.1	40.00
100	JK100	3.00		105.5		12.2	8.5	3.5	75.1	79.1	43.50
110	JK110	4.00	- 0.10	117.0		12.2	9.0	3.5	85.1	89.6	73.00
115	JK115	4.00		122.0	+1.50	12.2	9.3	3.5	89.5	94.6	82.00
120	JK120	4.00		127.0	- 0.63	12.2	9.6	3.5	94.4	99.6	87.00
125	JK125	4.00		132.0		12.2	9.9	4.0	99.4	104.6	92.00
130	JK130	4.00		137.0		12.2	10.2	4.0	104.3	109.6	102.00
140	JK140	4.00		148.0		14.2	10.7	4.0	110.2	115.6	112.00
150	JK150	4.00		158.0		14.2	11.1	4.0	120.1	126.6	123.00
160	JK160	4.00		169.0		14.2	11.8	4.5	130.0	136.6	133.00
170	JK170	4.00		179.5		14.2	12.3	4.5	139.9	146.6	145.00



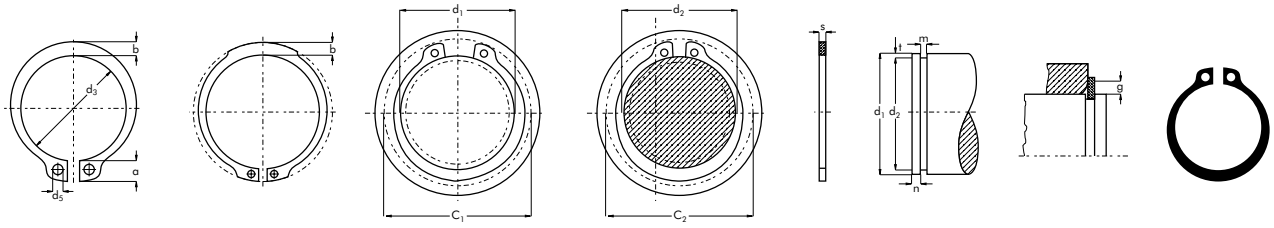
DIN 984 / D2000 / JK

					DATA							
Part Number	d_2	Tolerance	m min.	t	n	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	B	Number of teeth
JK67	70.0	+0.30	2.65	1.50	4.5	53.80	121.0	2.5	21.1	323.0	222.0	4
JK68	71.0		2.65	1.50	4.5	54.50	121.0	2.5	21.2	327.0	222.0	4
JK70	73.0		2.65	1.50	4.5	56.20	119.0	2.5	21.0	337.0	218.0	4
JK72	75.0		2.65	1.50	4.5	58.00	119.0	2.5	21.0	346.0	217.0	4
JK75	78.0		2.65	1.50	4.5	60.00	118.0	2.5	21.0	360.0	215.0	4
JK80	83.5	+0.35	2.65	1.75	5.3	74.60	120.0	2.5	21.8	448.0	219.0	4
JK85	88.5		3.15	1.75	5.3	79.50	201.0	3.0	31.2	477.0	364.0	4
JK90	93.5		3.15	1.75	5.3	84.00	199.0	3.0	31.4	504.0	364.0	4
JK95	98.5		3.15	1.75	5.3	88.60	195.0	3.0	31.4	532.0	365.0	4
JK100	103.5		3.15	1.75	5.3	93.10	188.0	3.0	30.8	559.0	359.0	4
JK110	114.0	+0.54	4.15	2.00	6.0	117.00	415.0	3.0	71.0	704.0	824.0	4
JK115	119.0		4.15	2.00	6.0	122.00	409.0	3.0	71.2	735.0	829.0	4
JK120	124.0	+0.63	4.15	2.00	6.0	127.00	396.0	3.0	70.0	767.0	818.0	4
JK125	129.0		4.15	2.00	6.0	132.00	385.0	3.0	70.0	797.0	809.0	4
JK130	134.0		4.15	2.00	6.0	138.00	374.0	3.0	69.0	829.0	801.0	4
JK140	144.0		4.15	2.00	6.0	148.00	350.0	3.0	66.5	892.0	775.0	4
JK150	155.0		4.15	2.50	7.5	191.00	326.0	3.0	64.0	1198.0	748.0	4
JK160	165.0		4.15	2.50	7.5	212.00	321.0	3.5	54.5	1275.0	737.0	4
JK170	175.0		4.15	2.50	7.5	225.00	349.0	3.5	59.0	1355.0	800.0	4

Rings for shafts (heavy duty)

DIN 471 / D1460 / AS

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	C_1	C_2	Weight [kg / 1000]
12	AS12	1.50	-0.06	11.0	+0.10	3.4	1.8	1.7	19.3	18.3	0.75
15	AS15	1.50		13.8	-0.36	4.8	2.4	2.0	25.1	23.9	1.20
16	AS16	1.50		14.7		5.0	2.5	2.0	26.5	25.2	1.20
17	AS17	1.50		15.7		5.0	2.6	2.0	27.5	26.2	1.24
18	AS18	1.50		16.5		5.1	2.7	2.0	28.7	27.2	1.54
19	AS19	1.50		17.5	+0.21	5.1	2.7	2.0	29.9	28.2	1.45
20	AS20	1.75		18.5	-0.42	5.5	3.0	2.0	31.5	30.0	2.25
22	AS22	1.75		20.5		6.0	3.1	2.0	34.5	33.0	2.30
23	AS23	1.75		21.3		6.6	3.2	2.0	35.7	34.0	2.60
24	AS24	1.75		22.2		6.3	3.2	2.0	37.1	35.5	2.70
25	AS25	2.00	-0.07	23.2		6.4	3.4	2.0	38.3	36.7	3.35
26	AS26	2.00		23.6		6.6	3.3	2.0	39.7	37.6	3.65
27	AS27	2.00		24.7		6.6	3.4	2.0	40.5	38.5	3.85
28	AS28	2.00		25.9		6.5	3.5	2.0	41.5	39.6	3.90
29	AS29	2.00		26.9		6.5	3.8	2.0	42.5	40.6	4.30
30	AS30	2.00		27.9		6.5	4.1	2.0	43.5	41.6	5.00
32	AS32	2.00		29.6	+0.25	6.5	4.1	2.5	45.5	43.3	5.40
33	AS33	2.00		30.5	-0.50	6.7	4.0	2.5	46.9	44.7	5.20
34	AS34	2.50		31.5		6.6	4.2	2.5	47.9	45.7	6.80
35	AS35	2.50		32.2		6.7	4.2	2.5	48.9	46.4	7.10
36	AS36	2.50		33.0		6.7	4.2	2.5	49.9	47.2	7.50
38	AS38	2.50		35.2		5.8	4.3	2.5	52.1	49.6	8.00
40	AS40	2.50		36.5	+0.39	7.0	4.4	2.5	55.0	51.5	8.20
42	AS42	2.50		38.5	-0.90	7.2	4.5	2.5	57.4	53.9	9.60
44	AS44	2.50		40.5		7.2	4.5	2.5	59.4	55.9	10.40
45	AS45	2.50		41.5		7.5	4.7	2.5	61.0	57.5	10.80
48	AS48	2.50		44.5		7.8	5.0	2.5	64.6	61.1	12.20
50	AS50	3.00	-0.08	45.8		8.0	5.1	2.5	67.0	63.0	14.80
52	AS52	3.00		47.8		8.2	5.2	2.5	69.4	65.4	15.40
55	AS55	3.00		50.8	+0.46	8.5	5.4	2.5	73.0	69.0	17.00
58	AS58	3.00		53.8	-1.10	8.8	5.6	2.5	76.6	72.6	19.40
60	AS60	3.00		55.8		9.0	5.8	2.5	79.0	75.0	20.00
65	AS65	4.00		60.8		9.3	6.3	3.0	84.6	80.6	31.00
70	AS70	4.00		65.5		9.5	6.6	3.0	90.0	86.0	32.20
75	AS75	4.00		70.5		9.7	7.0	3.0	95.4	91.4	39.80
80	AS80	4.00	-0.10	74.5	+0.46 / -1.10	9.8	7.4	3.0	100.6	96.1	42.40
85	AS85	4.00		79.5		10.0	7.8	3.5	106.0	101.5	47.00
90	AS90	4.00		84.5	+0.54	10.2	8.2	3.5	111.4	106.9	55.60
95	AS95	4.00		89.5	-1.30	10.2	8.6	3.5	116.6	112.1	61.20
100	AS100	4.00		94.5		10.5	9.0	3.5	122.0	117.5	72.00



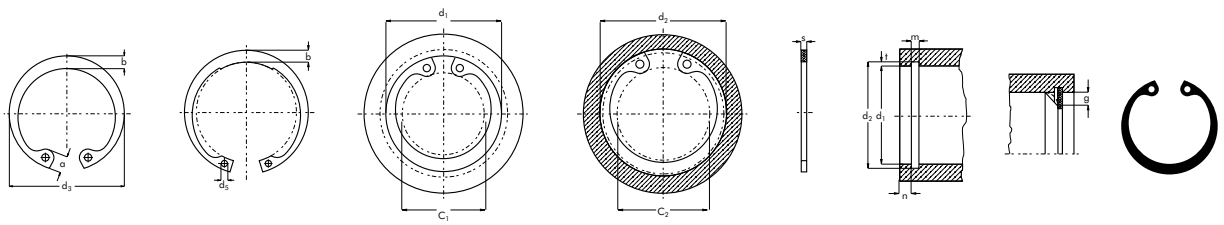
DIN 471 / D1460 / AS

					DATA							
Part Number	d_2	Tolerance	m min.	t	n	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	B	ndet. x1000 (rpm)
AS12	11.5	-0.11	1.60	0.25	0.7	1.53	11.3	1.0	4.5	9.2	2.25	75
AS15	14.3		1.60	0.40	0.7	3.20	15.5	1.0	4.5	18.3	2.25	50
AS16	15.2		1.60	0.35	1.2	3.26	16.7	1.0	4.5	19.6	2.25	48
AS17	16.2		1.60	0.40	1.5	4.32	18.0	1.0	4.5	25.9	2.25	46
AS18	17.0		1.60	0.50	1.8	5.50	26.6	1.5	5.8	33.0	1.56	43
AS19	18.0		1.60	0.50	1.8	5.78	26.6	1.5	5.9	34.7	1.56	28
AS20	19.0	-0.15	1.85	0.50	1.6	5.60	36.3	1.5	8.2	33.8	2.12	32
AS22	21.0		1.85	0.50	1.5	5.60	36.0	1.5	8.1	33.8	2.12	29
AS23	21.8		1.85	0.60	1.8	7.04	35.7	1.5	8.1	42.2	2.12	27
AS24	22.9	-0.21	1.85	0.55	1.9	7.95	34.2	1.5	7.6	47.7	2.12	29
AS25	23.9		2.15	0.55	1.9	8.30	45.0	1.5	10.3	49.7	2.78	25
AS26	24.4		2.15	0.80	2.4	10.70	44.0	1.5	10.0	63.0	2.73	27
AS27	25.5		2.15	0.75	2.3	10.30	45.5	1.5	10.6	62.0	2.78	25
AS28	26.6		2.15	0.70	2.1	10.00	57.0	1.5	13.4	60.0	1.78	22
AS29	27.6		2.15	0.70	2.1	10.40	56.5	1.5	13.3	62.2	1.78	22
AS30	28.6		2.15	0.70	2.1	10.70	57.0	1.5	13.6	64.4	1.78	21
AS32	30.3		2.15	0.85	2.5	12.90	57.0	1.5	13.6	77.8	1.78	20
AS33	31.3	-0.25	2.15	0.85	2.5	14.30	56.0	1.5	10.1	86.0	1.78	18
AS34	32.3		2.65	0.85	2.8	16.40	87.0	1.5	15.6	99.0	2.78	18
AS35	33.0		2.65	1.00	3.0	17.80	86.0	1.5	15.4	107.0	2.78	17
AS36	33.8		2.65	1.00	3.3	20.10	101.5	2.0	18.3	121.0	2.04	16
AS38	36.0		2.65	1.00	3.3	21.20	101.0	2.0	18.6	127.0	2.04	15
AS40	37.5		2.65	1.25	3.8	25.30	104.0	2.0	19.3	152.0	2.04	14
AS42	39.5		2.65	1.25	3.8	26.70	102.0	2.0	19.2	160.0	2.04	13
AS44	41.5		2.65	1.25	3.8	27.90	101.0	2.0	19.1	168.0	2.04	12
AS45	42.5		2.65	1.25	3.8	28.60	100.0	2.0	19.1	172.0	2.04	11
AS48	45.5		2.65	1.25	3.8	30.70	101.0	2.0	19.5	184.0	2.04	10
AS50	47.0		3.15	1.50	4.5	38.20	165.0	2.0	32.4	229.0	2.25	11
AS52	49.0		3.15	1.50	4.5	39.70	165.0	2.5	26.0	238.0	2.25	10
AS55	52.0	-0.30	3.15	1.50	4.5	42.00	161.0	2.5	25.6	252.0	2.25	9
AS58	55.0		3.15	1.50	4.5	44.30	160.0	2.5	26.0	266.0	2.25	8
AS60	57.0		3.15	1.50	4.5	46.00	156.0	2.5	25.4	276.0	2.25	8
AS65	62.0		4.15	1.50	4.5	49.80	346.0	2.5	58.0	299.0	2.56	7
AS70	67.0		4.15	1.50	4.5	53.80	343.0	2.5	59.0	323.0	2.56	7
AS75	72.0		4.15	1.50	4.5	57.60	333.0	2.5	58.0	346.0	2.56	6
AS80	76.5	-0.30	4.15	1.75	5.3	71.60	328.0	3.0	50.0	430.0	2.56	6
AS85	81.5	-0.35	4.15	1.75	5.3	76.30	383.0	3.0	59.4	458.0	1.78	6
AS90	86.5		4.15	1.75	5.3	80.80	386.0	3.0	61.0	485.0	1.78	5
AS95	91.5		4.15	1.75	5.3	85.50	378.0	3.5	52.0	513.0	1.78	5
AS100	96.5		4.15	1.75	5.3	90.00	368.0	3.5	51.6	540.0	1.78	4

Rings for bores (heavy duty)

DIN 472 / D1360 / JS

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	C_1	C_2	Weight [kg / 1000]
20	JS20	1.50	-0.06	21.5	+0.42	4.5	2.4	2.0	10.5	12.0	1.4
22	JS22	1.50		23.5	-0.21	4.7	2.8	2.0	12.1	13.6	1.9
24	JS24	1.50		25.9		4.9	3.0	2.0	13.7	15.4	2.0
25	JS25	1.50		26.9		5.0	3.1	2.0	14.5	16.2	2.1
26	JS26	1.50		27.9		5.1	3.1	2.0	15.3	17.0	2.3
27	JS27	1.50		29.1	+0.50	5.1	3.2	2.0	16.3	18.2	2.4
28	JS28	1.50		30.1	-0.25	5.3	3.2	2.0	16.9	18.8	2.5
30	JS30	1.50		32.1		5.5	3.3	2.0	18.4	20.4	2.7
32	JS32	1.50		34.4		5.7	3.4	2.0	20.0	22.0	2.9
34	JS34	1.75		36.5		5.9	3.7	2.5	21.6	23.9	4.1
35	JS35	1.75		37.8		6.0	3.8	2.5	22.4	25.0	4.5
37	JS37	1.75		39.8		6.2	3.9	2.5	24.0	26.6	4.7
38	JS38	1.75		40.8		6.3	3.9	2.5	24.8	27.4	4.8
40	JS40	2.00	-0.07	43.5	+0.90	6.5	3.9	2.5	26.4	29.5	5.1
42	JS42	2.00		45.5	-0.39	6.7	4.1	2.5	28.0	31.1	5.6
45	JS45	2.00		48.5	+1.10	7.0	4.3	2.5	30.3	33.5	6.3
47	JS47	2.00		50.5	-0.46	7.2	4.4	2.5	31.9	35.1	6.7
50	JS50	2.50		54.2		7.5	4.6	2.5	34.3	38.0	8.8
52	JS52	2.50		56.2		7.7	4.7	2.5	35.9	39.6	9.9
55	JS55	2.50		59.2		8.0	5.0	2.5	38.2	42.0	10.4
60	JS60	3.00	-0.08	64.2		8.5	5.4	2.5	42.2	46.0	15.9
62	JS62	3.00		66.2		8.6	5.5	2.5	44.0	47.8	16.1
64	JS64	3.00		68.2		8.7	5.6	3.0	45.8	49.6	16.5
65	JS65	3.00		69.2		8.7	5.8	3.0	46.8	50.6	16.6
68	JS68	3.00		72.5		8.8	6.1	3.0	49.5	53.4	17.2
70	JS70	3.00		74.5		9.0	6.2	3.0	51.1	55.0	18.0
72	JS72	3.00		76.5		9.2	6.4	3.0	53.7	56.9	21.7
75	JS75	3.00		79.5		9.3	6.6	3.0	55.5	59.4	22.6
80	JS80	4.00	-0.10	85.5	+1.30	9.5	7.0	3.0	60.0	64.5	33.2
85	JS85	4.00		90.5	-0.54	9.7	7.2	3.5	64.7	69.1	33.8
90	JS90	4.00		95.5		10.0	7.6	3.5	69.0	73.5	41.3
95	JS95	4.00		100.5		10.3	8.1	3.5	73.4	77.9	46.7
100	JS100	4.00		105.5		10.5	8.4	3.5	77.9	82.5	50.7
105	JS105	5.00	-0.12	112.0		10.7	8.7	4.0	82.5	87.6	70.0
110	JS110	5.00		117.0		10.9	9.0	4.0	87.1	92.2	81.0



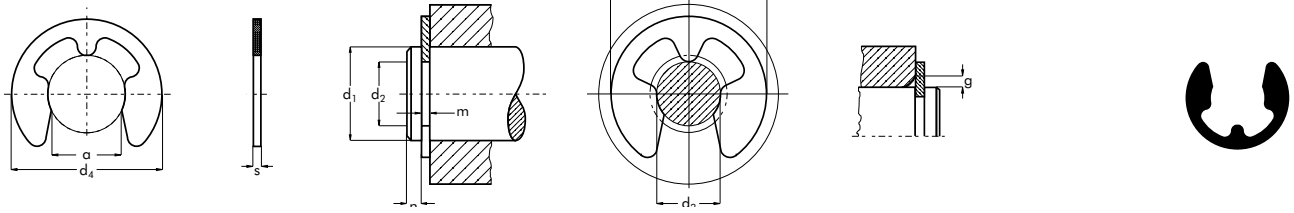
DIN 472 / D1360 / JS

					DATA						
Part Number	d_2	Tolerance	m min.	t	n	FN [kN]	FR [kN]	g	FRg [kN]	AN [mm²]	b
JS20	21.0	+0.15	1.60	0.50	1.5	5.4	16.2	1.0	5.8	32	2.25
JS22	23.0		1.60	0.50	1.5	5.9	18.0	1.0	6.1	35	2.25
JS24	25.2	+0.21	1.60	0.60	1.8	7.7	21.7	1.0	7.2	46	1.56
JS25	26.2		1.60	0.60	1.8	8.0	22.8	1.0	7.3	48	1.56
JS26	27.2		1.60	0.60	1.8	8.4	21.6	1.0	7.2	50	1.56
JS27	28.4		1.60	0.70	2.1	10.1	20.8	1.0	7.0	60	1.56
JS28	29.4		1.60	0.70	2.1	10.5	20.8	1.0	7.0	63	1.56
JS30	31.4	+0.25	1.60	0.70	2.1	11.3	21.4	1.0	7.2	67	1.56
JS32	33.7		1.60	0.85	2.6	14.6	21.4	1.0	7.3	87	1.56
JS34	35.7		1.85	0.85	2.6	15.4	35.6	1.5	8.6	92	1.36
JS35	37.0		1.85	1.00	3.0	18.8	36.6	1.5	8.7	113	1.36
JS37	39.0		1.85	1.00	3.0	19.8	36.8	1.5	8.8	119	1.36
JS38	40.0		1.85	1.00	3.0	22.5	38.3	1.5	9.1	123	1.36
JS40	42.5		2.15	1.25	3.8	27.0	58.4	2.0	10.9	162	1.31
JS42	44.5		2.15	1.25	3.8	28.4	58.5	2.0	11.0	170	1.31
JS45	47.5		2.15	1.25	3.8	30.2	56.5	2.0	10.7	181	1.31
JS47	49.5		2.15	1.25	3.8	31.4	57.0	2.0	10.8	189	1.31
JS50	53.0	+0.30	2.65	1.50	4.5	40.5	95.5	2.0	19.0	243	1.57
JS52	55.0		2.65	1.50	4.5	42.0	94.6	2.0	18.8	252	1.57
JS55	58.0		2.65	1.50	4.5	44.4	94.7	2.0	19.6	266	1.57
JS60	63.0		3.15	1.50	4.5	48.3	137.0	2.0	29.2	290	2.25
JS62	65.0		3.15	1.50	4.5	49.8	137.0	2.0	29.2	299	2.25
JS64	67.0		3.15	1.50	4.5	51.4	137.0	2.0	30.0	308	2.25
JS65	68.0		3.15	1.50	4.5	51.8	174.0	2.5	30.0	313	1.44
JS68	71.0		3.15	1.50	4.5	54.5	174.0	2.5	30.6	327	1.44
JS70	73.0		3.15	1.50	4.5	56.2	171.0	2.5	30.3	337	1.44
JS72	75.0		3.15	1.50	4.5	58.0	172.0	2.5	30.3	346	1.44
JS75	78.0		3.15	1.50	4.5	60.0	170.0	2.5	30.3	360	1.44
JS80	83.5	+0.35	4.15	1.75	5.3	74.6	308.0	2.5	56.0	448	2.56
JS85	88.5		4.15	1.75	5.3	79.5	358.0	3.0	55.0	477	1.78
JS90	93.5		4.15	1.75	5.3	84.0	354.0	3.0	56.0	504	1.78
JS95	98.5		4.15	1.75	5.3	88.6	347.0	3.0	56.0	532	1.78
JS100	103.5		4.15	1.75	5.3	93.1	335.0	3.0	55.0	559	1.78
JS105	109.0	+0.54	5.15	2.00	6.0	112.0	681.0	3.0	114.0	672	1.56
JS110	114.0		5.15	2.00	6.0	117.0	648.0	3.0	111.0	704	1.56

E clips

DIN 6799 / D1500 / RA

d_2	Part Number	d_1		s	Tolerance	d_4	a	Tolerance	C_2	Weight
		from	to							[kg / 1000]
1.2	RA1.2	1.4	2.0	0.30	±0.02	2.90	1.01	±0.04	3.0	0.009
1.5	RA1.5	2.0	2.5	0.40		3.90	1.28		4.0	0.021
1.9	RA1.9	2.5	3.0	0.50		4.40	1.61		4.5	0.040
2.3	RA2.3	3.0	4.0	0.60		5.90	1.94		6.0	0.069
3.2	RA3.2	4.0	5.0	0.60		6.90	2.70		7.0	0.088
4.0	RA4.0	5.0	7.0	0.70		8.85	3.34	±0.048	9.0	0.158
5.0	RA5.0	6.0	8.0	0.70		10.85	4.11		11.0	0.236
6.0	RA6.0	7.0	9.0	0.70		11.80	5.26	±0.058	12.0	0.255
7.0	RA7.0	8.0	11.0	0.90		13.80	5.84		14.0	0.474
8.0	RA8.0	9.0	12.0	1.00	±0.03	15.75	6.52		16.0	0.660
9.0	RA9.0	10.0	14.0	1.10		18.20	7.63		18.5	1.000
10.0	RA10.0	11.0	15.0	1.20		19.70	8.32		20.0	1.120
12.0	RA12.0	13.0	18.0	1.30		22.70	10.45	±0.070	23.0	1.770
15.0	RA15.0	16.0	24.0	1.50		28.70	12.61		29.0	3.370
19.0	RA19.0	20.0	31.0	1.75		36.50	15.92	±0.084	37.0	6.420
24.0	RA24.0	25.0	38.0	2.00		43.50	21.88		44.0	8.550



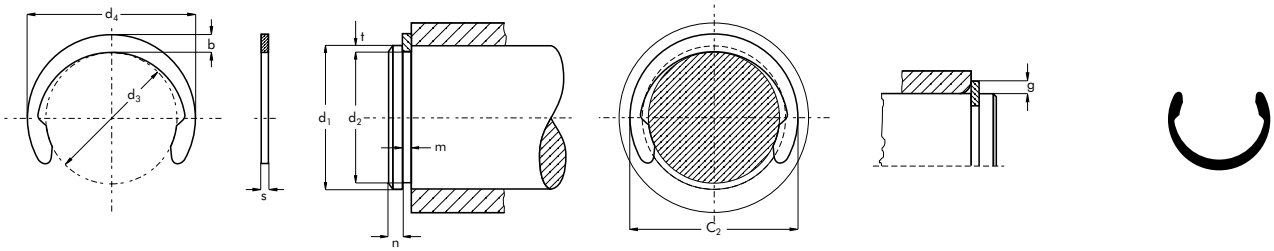
DIN 6799 / D1500 / RA

				DATA						
Part Number	d_2	Tolerance	m min.	n	FN [kN]	d_1	FR [kN]	g	FRg [kN]	$n_{det.}$ x1000 [rpm]
RA1.2	1.2	-0.060	0.34	0.6	0.04	1.5	0.12	0.4	0.06	47
RA1.5	1.5		0.44	0.8	0.07	2.0	0.22	0.6	0.11	42
RA1.9	1.9		0.54	1.0	0.10	2.5	0.35	0.7	0.17	40
RA2.3	2.3		0.64	1.0	0.15	3.0	0.50	0.9	0.24	38
RA3.2	3.2	-0.075	0.64	1.0	0.22	4.0	0.65	0.9	0.32	35
RA4.0	4.0		0.74	1.2	0.25	5.0	0.95	1.0	0.47	32
RA5.0	5.0		0.74	1.2	0.90	7.0	1.15	1.0	0.60	28
RA6.0	6.0		0.74	1.2	1.10	8.0	1.35	1.1	0.70	25
RA7.0	7.0	-0.090	0.94	1.5	1.25	9.0	1.80	1.3	1.00	22
RA8.0	8.0		1.05	1.8	1.42	10.0	2.50	1.5	1.25	20
RA9.0	9.0		1.15	2.0	1.60	11.0	3.00	1.6	1.50	17
RA10.0	10.0		1.25	2.0	1.70	12.0	3.50	1.8	1.75	15
RA12.0	12.0	-0.110	1.35	2.5	3.10	15.0	4.70	1.9	2.30	13
RA15.0	15.0		1.55	3.0	7.00	20.0	7.80	2.2	3.30	11
RA19.0	19.0	-0.130	1.80	3.5	10.00	25.0	11.00	2.5	3.60	8
RA24.0	24.0		2.05	4.0	13.00	30.0	15.00	3.0	4.00	6

Crescent rings

M1800 / H

d_1	Part Number	s	Tolerance	d_3	Tolerance	b	d_4	C_2	Weight
									[kg / 1000]
3	H3	0.40	-0.05	2.18	±0.06	0.90	3.98	4.1	0.02
4	H4	0.40		3.00		1.00	5.00	5.2	0.04
5	H5	0.60		3.80	±0.08	1.20	6.20	6.4	0.08
6	H6	0.70		4.80		1.30	7.40	7.6	0.11
6.5	H6.5	0.70		5.60		1.30	8.20	8.4	0.12
7	H7	0.80		5.80		1.40	8.60	8.8	0.13
8	H8	0.80		6.80	±0.09	1.60	10.00	10.2	0.17
9	H9	1.00	-0.06	7.80		1.70	11.20	11.4	0.22
10	H10	1.00		8.75		1.70	12.15	12.4	0.26
11	H11	1.00		9.65	±0.18	1.80	13.20	13.6	0.29
12	H12	1.00		10.55		1.90	14.35	14.7	0.32
13	H13	1.00		11.40		2.00	15.40	15.8	0.36
14	H14	1.00		12.30		2.00	16.30	16.7	0.40
15	H15	1.00		13.20		2.10	17.40	17.8	0.46
16	H16	1.00		14.10		2.20	18.50	18.9	0.54
17	H17	1.00		14.90		2.25	19.40	19.9	0.64
18	H18	1.20		15.80		2.30	20.40	20.9	0.72
19	H19	1.20		16.70		2.40	21.50	22.0	0.80
20	H20	1.20		17.55		2.55	22.65	23.2	0.87
22	H22	1.20		19.40	±0.21	2.80	25.00	25.5	1.10
23	H23	1.20		20.20		2.90	26.00	26.6	1.15
24	H24	1.20		21.10		3.00	27.10	27.7	1.52
25	H25	1.20		22.00		3.15	28.30	28.9	1.74
26	H26	1.20		22.90		3.25	29.40	30.0	1.88
28	H28	1.50		24.60		3.50	31.60	32.2	2.32
30	H30	1.50		26.30		3.70	33.70	34.4	2.43
32	H32	1.50		28.10		4.00	36.10	36.8	3.02
35	H35	1.50		30.80	±0.25	4.30	39.40	40.1	3.30
36	H36	1.75		31.70		4.40	40.50	41.2	4.40
38	H38	1.75		33.40		4.60	42.60	43.4	4.62
40	H40	1.75		35.20	±0.39	4.90	45.00	45.8	5.05
42	H42	1.75		37.00		5.10	47.20	48.0	5.46
45	H45	1.75		39.60		5.50	50.60	51.5	5.98
48	H48	1.75		42.30		5.90	54.10	55.0	7.82
50	H50	2.00	-0.07	44.00		6.20	56.40	57.4	8.85
52	H52	2.00		46.00		6.30	58.60	59.6	9.33
55	H55	2.00		48.50		6.50	61.50	63.0	10.40



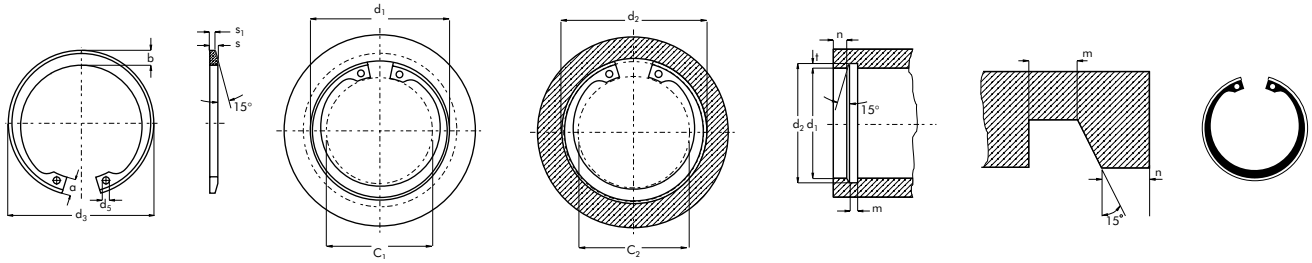
M1800 / H

					DATA					
Part Number	d_2	Tolerance	m min.	t	n	FN [kN]	FR [kN]	g	FRg [kN]	^{n}det. x1000 [rpm]
H3	2.3	-0.07	0.44	0.35	1.0	0.24	0.50	0.40	0.40	95
H4	3.2		0.44	0.40	1.2	0.37	0.50	0.40	0.40	90
H5	4.0		0.64	0.50	1.5	0.58	1.10	0.60	0.70	88
H6	5.0		0.74	0.50	1.5	0.72	1.65	0.70	1.10	80
H6.5	5.8		0.74	0.35	1.0	0.55	1.70	0.70	1.05	76
H7	6.0	-0.09	0.85	0.50	1.5	0.85	2.20	0.80	1.30	69
H8	7.0		0.85	0.50	1.5	0.98	2.20	0.80	1.30	67
H9	8.0		1.10	0.50	1.5	1.10	3.50	1.00	2.00	58
H10	9.0		1.10	0.50	1.5	1.24	3.70	1.00	2.00	50
H11	10.0	-0.11	1.10	0.50	1.5	1.35	4.00	1.00	2.00	40
H12	10.9		1.10	0.55	1.7	1.65	4.20	1.00	2.00	35
H13	11.8		1.10	0.60	1.8	1.90	4.50	1.00	2.00	30
H14	12.7		1.10	0.65	2.0	2.20	5.00	1.00	2.00	27
H15	13.6		1.10	0.70	2.1	2.60	5.50	1.00	2.00	25
H16	14.5		1.10	0.75	2.3	3.00	5.80	1.00	2.00	24
H17	15.4		1.10	0.80	2.4	3.40	6.00	1.00	2.00	23
H18	16.3		1.30	0.85	2.6	3.70	8.50	1.20	2.80	21
H19	17.2		1.30	0.90	2.7	4.30	9.00	1.20	2.80	21
H20	18.1	-0.21	1.30	0.95	2.9	4.70	9.40	1.20	3.00	20
H22	19.9		1.30	1.05	3.2	5.70	1.00	1.20	3.00	17
H23	20.8		1.30	1.10	3.3	6.20	10.50	1.20	3.20	15
H24	21.7		1.30	1.15	3.5	6.80	11.00	1.20	3.20	15
H25	22.6		1.30	1.20	3.6	7.50	11.50	1.20	3.20	15
H26	23.5		1.30	1.25	3.8	8.00	12.00	1.20	3.20	15
H28	25.2		1.60	1.40	4.2	9.70	16.50	1.50	5.50	13
H30	27.0		1.60	1.50	4.5	11.00	17.00	1.50	5.60	13
H32	28.8		1.60	1.60	4.6	12.50	18.00	1.50	5.80	13
H35	31.5	-0.25	1.60	1.75	5.3	15.00	20.00	1.50	5.80	11
H36	32.4		1.85	1.80	5.4	16.00	25.00	1.75	8.30	10
H38	34.2		1.85	1.90	5.7	17.50	26.00	1.75	8.50	10
H40	36.0		1.85	2.00	6.0	20.00	27.50	1.75	8.80	9
H42	37.8		1.85	2.10	6.3	21.50	28.00	1.75	8.90	9
H45	40.5		1.85	2.25	6.8	25.00	30.00	1.75	9.00	8
H48	43.2		1.85	2.40	7.2	28.00	32.00	1.75	9.00	8
H50	45.0		2.15	2.50	7.5	31.00	39.50	2.00	12.00	7
H52	47.0		2.15	2.50	7.5	32.00	41.00	2.00	12.00	7
H55	50.0		2.15	2.50	7.5	34.00	43.00	2.00	12.00	7

Bevelled rings for bores

M1302 / JB

d_1	Part Number	s	Tolerance	s_1	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	C_1	C_2	Weight [kg / 1000]
40	JB40	1.65	-0.15	1.25	-0.05	44.0	+0.9	5.3	4.0	1.9	28.9	32.2	4.05
41	JB41	1.65		1.22		45.8	-0.6	5.9	4.0	1.9	28.1	32.2	4.55
42	JB42	1.65		1.22		46.6		5.9	4.2	1.9	29.0	33.2	4.73
43	JB43	1.65		1.19		47.6		5.9	4.3	1.9	30.6	34.2	4.91
44	JB44	1.65		1.19		49.3		6.1	4.3	1.9	31.2	35.0	4.68
46	JB46	1.65		1.19		51.1		6.1	4.3	2.3	33.2	37.2	5.23
47	JB47	1.65		1.19		52.2		6.1	4.3	2.3	34.2	38.2	5.82
48	JB48	1.65		1.19		52.6		6.1	4.3	2.3	35.2	39.3	5.82
51	JB51	1.65		1.15		56.1		6.2	4.3	2.3	38.0	42.2	6.36
52	JB52	2.05		1.50	-0.075	57.9	+1.0	6.5	4.7	2.3	38.4	42.7	8.18
54	JB54	2.05		1.56		59.7	-0.75	6.7	4.9	2.3	40.0	44.5	8.82
56	JB56	2.05		1.54		61.3		6.8	5.0	2.3	41.7	46.5	8.91
57	JB57	2.05		1.54		63.2		7.0	5.2	2.3	42.3	47.5	9.91
60	JB60	2.05		1.51		66.8		7.0	5.3	2.3	45.3	50.5	10.55
62	JB62	2.05		1.48		68.6		7.2	5.2	2.7	46.9	52.1	11.54
63	JB63	2.05		1.48		77.5		7.2	5.3	2.7	47.9	53.3	11.59
65	JB65	2.45		1.88	-0.10	72.2		7.5	5.6	2.7	49.3	54.8	15.45
67	JB67	2.45		1.85		73.9		7.5	5.7	2.7	51.2	56.9	15.68
68	JB68	2.45		1.85		75.7		7.7	6.0	2.7	51.9	57.7	15.91
70	JB70	2.45		1.83		77.5		7.7	5.9	2.7	53.9	59.8	16.14
72	JB72	2.45		1.83		79.3		7.7	5.8	2.7	55.9	61.9	16.36
78	JB78	2.85		2.15	-0.13	86.8	±1.4	8.1	6.5	3.1	61.0	67.5	24.09
80	JB80	2.85		2.15		89.5		8.1	6.7	3.1	63.0	69.8	25.19
82	JB82	2.85		2.15		92.0		8.9	6.8	3.1	63.3	70.3	27.27
85	JB85	2.85		2.15		94.8		8.9	7.0	3.1	66.3	73.4	29.55
88	JB88	2.85		2.15		98.0		8.9	7.4	3.1	69.3	76.8	31.36
90	JB90	2.85		2.15		100.0		8.9	7.4	3.1	71.3	79.0	32.73
92	JB92	2.85		2.15		102.2		8.9	7.7	3.1	73.3	81.2	33.18
95	JB95	2.85		2.15		105.6	±1.65	8.9	7.8	3.1	75.3	84.3	35.45
98	JB98	2.85		2.15		109.0		9.6	8.1	3.1	77.9	86.3	39.55
100	JB100	2.85		2.15		110.7		9.6	8.1	3.1	79.9	88.4	40.00
102	JB102	2.85		2.15		112.4		9.6	8.4	3.1	81.9	90.5	42.27
105	JB105	2.85		2.15		115.8		9.6	8.4	3.1	84.9	93.6	44.09
108	JB108	2.85		2.15		119.2		9.6	8.5	3.1	87.9	96.9	45.91
110	JB110	2.85		2.15		120.8		10.5	8.6	3.8	89.9	97.0	47.73
115	JB115	2.85		2.15		125.5		10.5	8.9	3.8	93.0	102.2	50.45
118	JB118	2.85		2.15		128.9		10.5	8.9	3.8	96.0	105.3	53.18
120	JB120	2.85		2.15		132.4		10.5	9.1	3.8	98.0	107.6	56.36
127	JB127	2.85		2.15		139.3		11.3	9.9	3.8	103.7	113.2	61.82
140	JB140	3.25	- 0.20	2.49	- 0.15	154.1		11.8	10.4	3.8	115.2	125.6	83.18



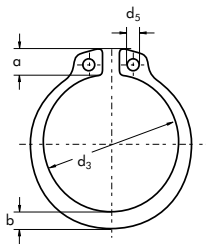
M1302 / JB

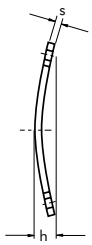
						DATA				
Part Number	d_2	Tolerance	m min.	Tolerance	t	n	FR [kN]	g	FRg [kN]	K [kN / mm]
JB40	42.8	+0.13	1.30	+0.025	1.40	4.5	24.8	2.0	4.6	47.2
JB41	44.0		1.30		1.40	4.7	23.2	2.0	4.3	44.2
JB42	45.0		1.30		1.50	4.8	23.7	2.0	4.4	45.5
JB43	46.0		1.27		1.50	4.9	22.9	2.0	4.3	44.2
JB44	47.2		1.27		1.85	5.1	22.1	2.0	4.2	42.9
JB46	49.4		1.27		1.70	5.2	20.9	2.0	4.0	40.9
JB47	50.4		1.27		1.70	5.3	20.3	2.0	3.9	40.4
JB48	51.5		1.27		1.75	5.4	17.9	2.0	3.5	35.5
JB51	54.6		1.22		1.80	5.7	17.5	2.0	3.4	35.2
JB52	55.7	+0.15	1.65	+0.038	1.85	5.9	46.3	2.0	9.1	81.3
JB54	57.9		1.65		1.95	6.1	45.9	2.0	9.1	81.5
JB56	60.1		1.63		2.05	6.4	43.9	2.0	8.8	78.7
JB57	61.5		1.63		2.25	6.7	44.5	2.0	8.9	80.1
JB60	64.5		1.60		2.25	7.0	43.6	2.0	7.8	79.7
JB62	66.5		1.57		2.25	7.0	38.0	2.0	7.8	70.0
JB63	67.7		1.57		2.35	7.2	37.9	2.0	7.8	70.2
JB65	69.8		1.98		2.40	7.4	71.1	2.5	11.9	132.9
JB67	71.9		1.96		2.45	7.7	68.1	2.5	11.6	128.6
JB68	73.1		1.96		2.55	7.8	70.4	2.5	12.0	133.4
JB70	75.2		1.93		2.60	8.0	66.0	2.5	11.4	126.3
JB72	77.3		1.93		2.65	8.2	61.9	2.5	10.8	119.6
JB78	73.7		2.26	+0.051	2.85	8.9	112.7	2.5	20.2	197.5
JB80	86.0		2.26		3.00	9.0	112.2	2.5	20.2	198.4
JB82	88.1		2.26		3.05	9.1	110.0	2.5	20.0	196.5
JB85	91.2		2.26		3.10	9.6	108.0	3.0	16.6	195.3
JB88	94.6		2.26		3.30	10.0	108.8	3.0	16.9	199.3
JB90	96.8		2.26		3.40	10.4	105.3	3.0	16.5	194.5
JB92	99.0		2.26		3.50	10.7	106.4	3.0	16.8	198.0
JB95	102.1		2.26		3.55	11.3	103.1	3.0	16.6	194.3
JB98	105.5		2.26		3.75	11.5	102.4	3.0	16.6	195.4
JB100	107.6		2.26		3.80	11.6	99.5	3.0	16.3	191.4
JB102	109.7		2.26		3.85	11.7	100.5	3.0	16.6	194.8
JB105	112.8		2.26		3.90	12.0	96.4	3.0	16.1	183.1
JB108	116.1		2.26		4.05	12.1	93.6	3.0	15.8	185.8
JB110	118.0		2.26		4.00	12.3	92.5	3.0	15.7	184.9
JB115	123.2		2.26		4.10	12.6	89.8	3.0	15.6	183.2
JB118	126.3		2.26		4.15	12.8	86.5	3.0	15.2	178.5
JB120	128.6		2.26		4.30	13.0	86.3	3.0	15.3	179.2
JB127	135.8		2.26		4.40	13.4	86.8	3.0	15.7	184.9
JB140	149.2		2.59		4.60	14.1	119.6	3.0	22.7	266.9

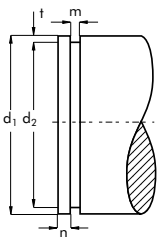
Bowed rings for shafts

M1401 / AW

d_1	Part Number	s	d_3	Tolerance	a max.	b ≈	d_5 min.	h	Tolerance	Weight [kg/1000]
40	AW40	1.75	36.5	+0.39	6.0	4.4	2.5	3.5	+0.8	6.03
42	AW42	1.75	38.5	-0.90	6.5	4.5	2.5	3.5	-0.0	6.50
45	AW45	1.75	41.5		6.7	4.7	2.5	3.6		7.50
47	AW47	1.75	43.5		6.8	4.9	2.5	3.7		7.50
50	AW50	2.00	45.8		6.9	5.1	2.5	4.0	+1.0	10.20
52	AW52	2.00	47.8		7.0	5.2	2.5	4.1	-0.0	11.10
55	AW55	2.00	50.8	+0.46	7.2	5.4	2.5	4.2		11.40
57	AW57	2.00	52.8	-1.10	7.3	5.5	2.5	4.2		12.20
60	AW60	2.00	55.8		7.4	5.8	2.5	4.3		12.90
62	AW62	2.00	57.8		7.5	6.0	2.5	4.4		14.30
65	AW65	2.50	60.8		7.8	6.3	3.0	5.0	+1.3	18.20
67	AW67	2.50	62.8		7.9	6.4	3.0	5.0	-0.0	20.30
70	AW70	2.50	65.8		8.1	6.6	3.0	5.1		22.00
72	AW72	2.50	67.5		8.2	6.8	3.0	5.2		22.50
75	AW75	2.50	70.5		8.4	7.0	3.0	5.2		24.60
77	AW77	2.50	72.5		8.5	7.2	3.0	5.3		25.70
80	AW80	2.50	74.5		8.6	7.4	3.0	5.4		27.30
82	AW82	2.50	76.5		8.7	7.6	3.0	5.4	+1.5	31.20
85	AW85	3.00	79.5		8.7	7.8	3.5	6.0	-0.0	36.40
87	AW87	3.00	81.5	+0.54	8.8	7.9	3.5	6.1		39.80
90	AW90	3.00	84.5	-1.30	8.8	8.2	3.5	6.3		44.50
92	AW92	3.00	86.5		9.0	8.4	3.5	6.4		46.00
95	AW95	3.00	89.5		9.4	8.6	3.5	6.6		49.00
97	AW97	3.00	91.5		9.4	8.8	3.5	6.7		50.20
100	AW100	3.00	94.5		9.6	9.0	3.5	6.9		53.70
105	AW105	4.00	98.0		9.9	9.3	3.5	8.0	+2.0	80.00
110	AW110	4.00	103.0		10.1	9.6	3.5	8.1	-0.0	82.00
115	AW115	4.00	108.0		10.6	9.8	3.5	8.2		84.00
120	AW120	4.00	113.0		11.0	10.2	3.5	8.2		86.00
125	AW125	4.00	118.0		11.4	10.4	4.0	8.2		90.00
130	AW130	4.00	123.0	+0.63	11.6	10.7	4.0	8.3		100.00
135	AW135	4.00	128.0	-1.50	11.8	11.0	4.0	8.3		104.00
140	AW140	4.00	133.0		12.0	11.2	4.0	8.4		110.00
145	AW145	4.00	138.0		12.2	11.5	4.0	8.4		115.00
150	AW150	4.00	142.0		13.0	11.8	4.0	8.5		120.00







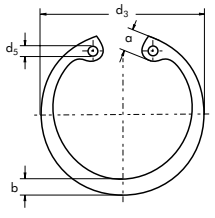
M1401 / AW

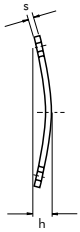
Part Number	d_2	Tolerance	m min.	t	n
AW40	37.3	+0.00	3.4	1.35	4
AW42	39.3	-0.25	3.4	1.35	4
AW45	42.3		3.5	1.35	4
AW47	44.3		3.5	1.35	4
AW50	46.7		3.9	1.65	5
AW52	48.7		3.9	1.65	5
AW55	51.7	+0.00	4.1	1.65	5
AW57	53.7	-0.30	4.1	1.65	5
AW60	56.7		4.2	1.65	5
AW62	58.7		4.2	1.65	5
AW65	61.7		4.8	1.65	5
AW67	63.7		4.8	1.65	5
AW70	66.7		4.9	1.65	5
AW72	68.7		5.0	1.65	5
AW75	71.7		5.0	1.65	5
AW77	73.7		5.0	1.65	5
AW80	76.0		5.1	2.00	6
AW82	78.0		5.1	2.00	6
AW85	81.0	+0.00	5.8	2.00	6
AW87	83.0	-0.35	5.9	2.00	6
AW90	86.0		6.0	2.00	6
AW92	88.0		6.1	2.00	6
AW95	91.0		6.2	2.00	6
AW97	93.0		6.2	2.00	6
AW100	96.0		6.3	2.00	6
AW105	100.5	+0.00	7.6	2.25	7
AW110	105.5	-0.54	7.7	2.25	7
AW115	110.5		7.7	2.25	7
AW120	115.5		7.8	2.25	7
AW125	120.5	+0.00	7.8	2.25	7
AW130	125.5	-0.63	7.9	2.25	7
AW135	130.5		7.9	2.25	7
AW140	135.5		8.0	2.25	7
AW145	140.5		8.0	2.25	7
AW150	144.5		8.1	2.75	8

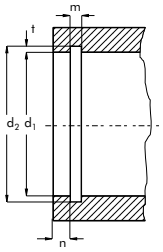
Bowed rings for bores

M1301 / JW

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	h	Tolerance	Weight [kg / 1000]
40	JW40	1.75	+0.00	43.5	+0.90	5.8	3.9	2.5	3.5	+0.8	4.70
42	JW42	1.75	-0.06	45.5	-0.39	5.9	4.1	2.5	3.5		5.40
45	JW45	1.75		48.5		6.2	4.3	2.5	3.6		6.00
47	JW47	1.75		50.5	+1.10	6.4	4.4	2.5	3.7		6.10
50	JW50	2.00	+0.00	54.2	-0.46	6.5	4.6	2.5	4.0	+1.0	7.30
52	JW52	2.00	-0.07	56.2		6.7	4.7	2.5	4.1		8.20
55	JW55	2.00		59.2		6.8	5.0	2.5	4.2		8.30
57	JW57	2.00		61.2		6.8	5.1	2.5	4.2		9.40
60	JW60	2.00		64.2		7.3	5.4	2.5	4.3		11.10
62	JW62	2.00		66.2		7.3	5.5	2.5	4.4		11.20
63	JW63	2.00		67.2		7.3	5.6	2.5	4.4		12.40
65	JW65	2.50		69.2		7.6	5.8	3.0	5.0	+1.3	14.30
67	JW67	2.50		71.5		7.7	6.0	3.0	5.0		15.30
70	JW70	2.50		74.5		7.8	6.2	3.0	5.1		16.50
72	JW72	2.50		76.5		7.8	6.4	3.0	5.2		18.10
75	JW75	2.50		79.5		7.8	6.6	3.0	5.2		18.80
77	JW77	2.50		81.5	+1.30	7.9	6.7	3.0	5.3		
80	JW80	2.50		85.5	-0.54	8.5	7.0	3.0	5.4		24.00
82	JW82	2.50		87.5		8.5	7.0	3.0	5.4		25.30
85	JW85	3.00	+0.00	90.5		8.6	7.2	3.5	6.0	+1.5	31.00
87	JW87	3.00	-0.08	92.5		8.6	7.3	3.5	6.1		
90	JW90	3.00		95.5		8.6	7.6	3.5	6.3		33.00
92	JW92	3.00		100.5		8.7	7.8	3.5	6.4		35.00
95	JW95	3.00		100.5		8.8	8.1	3.5	6.6		37.00
100	JW100	3.00		105.5		9.2	8.4	3.5	6.9		42.00
105	JW105	4.00	+0.00	112.0		9.5	8.7	3.5	8.0	+2.0	56.00
110	JW110	4.00	-0.10	117.0		10.4	9.0	3.5	8.1		64.50
115	JW115	4.00		122.0	+1.50	10.5	9.3	3.5	8.1		74.50
120	JW120	4.00		127.0	-0.63	11.0	9.7	3.5	8.2		77.00
125	JW125	4.00		132.0		11.0	10.0	4.0	8.2		79.00
130	JW130	4.00		137.0		11.0	10.2	4.0	8.3		82.00
135	JW135	4.00		142.0		11.2	10.5	4.0	8.3		84.00
140	JW140	4.00		147.0		11.2	10.7	4.0	8.4		87.50
145	JW145	4.00		152.0		11.4	10.9	4.0	8.4		93.00
150	JW150	4.00		158.0		12.0	11.2	4.0	8.5		105.00







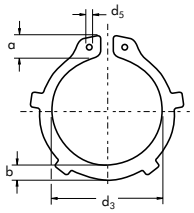
M1301 / JW

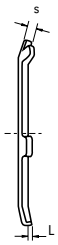
Part Number	d_2	Tolerance	m min.	t	n
JW40	42.7	+0.25	3.4	1.35	4
JW42	44.7		3.4	1.35	4
JW45	47.7		3.5	1.35	4
JW47	49.7		3.5	1.35	4
JW50	53.3	+0.30	3.9	1.65	5
JW52	55.3		3.9	1.65	5
JW55	58.3		4.1	1.65	5
JW57	60.3		4.1	1.65	5
JW60	63.3		4.2	1.65	5
JW62	65.3		4.2	1.65	5
JW63	66.3		4.2	1.65	5
JW65	70.3		4.8	2.65	5
JW67	73.3		4.8	3.15	5
JW70	73.3		4.9	1.65	5
JW72	75.3		5.0	1.65	5
JW75	78.3		5.0	1.65	5
JW77	80.3	+0.35	5.0	1.65	5
JW80	84.0		5.1	2.00	6
JW82	86.0		5.1	2.00	6
JW85	89.0		5.8	2.00	6
JW87	91.0		5.9	2.00	6
JW90	94.0		6.0	2.00	6
JW92	96.0		6.1	0.50	6
JW95	96.0		6.2	0.50	6
JW100	104.0	+0.54	6.3	2.00	6
JW105	109.5		7.6	2.25	7
JW110	114.5		7.7	2.25	7
JW115	119.5		7.7	2.25	7
JW120	124.5	+0.63	7.8	2.25	7
JW125	129.5		7.8	2.25	7
JW130	134.5		7.9	2.25	7
JW135	139.5		7.9	2.25	7
JW140	144.5		8.0	2.25	7
JW145	149.5		8.0	2.25	7
JW150	155.5		8.1	2.75	8

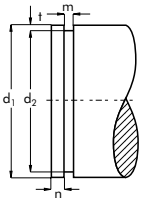
L-rings for shafts

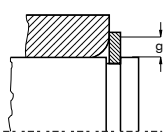
DIN 983L / AL

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	Weight [kg / 1000]
16	AL16	0.60	+0.00	14.7	+0.10	3.5	2.3	1.7	0.82
17	AL17	0.60	- 0.05	15.7	-0.36	3.6	2.4	1.7	0.93
18	AL18	0.80		16.5		3.7	2.5	1.7	1.24
19	AL19	0.80		17.5		3.7	2.6	2.0	1.35
20	AL20	1.20	+0.00	18.5	+0.13	3.8	2.6	2.0	1.45
22	AL22	1.20	-0.06	20.5	-0.42	4.0	2.8	2.0	1.77
23	AL23	1.20		21.5		4.1	2.9	2.0	1.84
24	AL24	1.20		22.2	+0.21	4.2	3.0	2.0	1.98
25	AL25	1.20		23.2	-0.42	4.3	3.0	2.0	2.12
26	AL26	1.20		24.2		4.4	3.1	2.0	2.18
28	AL28	1.50		25.9		4.5	3.3	2.0	3.15
29	AL29	1.50		26.9		4.7	3.4	2.0	3.35
30	AL30	1.50		27.9		4.7	3.4	2.0	3.65
32	AL32	1.50		29.6		5.0	3.6	2.5	4.00
34	AL34	1.50		31.5		5.1	3.8	2.5	4.15
35	AL35	1.50		32.2	+0.25	5.2	3.8	2.5	4.38
37	AL37	1.50		34.2	-0.50	5.4	4.0	2.5	6.30
38	AL38	1.75		35.2		5.5	4.1	2.5	6.50
40	AL40	1.75		36.5	+0.39	7.2	4.2	2.5	7.00
42	AL42	1.75		38.5	-0.90	7.2	4.5	2.5	7.50
45	AL45	1.75		41.5		7.2	4.6	2.5	8.50
47	AL47	1.75		43.5		7.2	4.8	2.5	8.70
48	AL48	1.75		44.5		7.2	4.9	2.5	8.90
50	AL50	2.00	+0.00	45.8		8.2	5.0	2.5	11.50
55	AL55	2.00	- 0.07	50.8	+0.46	8.2	5.4	2.5	12.99
58	AL58	2.00		53.8	-1.10	8.2	5.7	2.5	14.30
60	AL60	2.00		55.8		8.2	5.8	2.5	14.80
62	AL62	2.00		57.8		8.2	5.9	2.5	15.90
65	AL65	2.50		60.8		10.2	6.2	3.0	21.70
70	AL70	2.50		65.5		10.2	6.6	3.0	25.10
75	AL75	2.50		70.5		10.2	7.0	3.0	28.20
80	AL80	2.50		74.5		10.2	7.4	3.0	30.75
85	AL85	3.00	+0.00	79.5		10.2	7.8	3.5	39.50
90	AL90	3.00	- 0.08	84.5	+0.54	10.2	8.2	3.5	47.70
95	AL95	3.00		89.5	-1.30	10.2	8.6	3.5	53.00









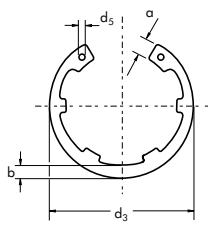
DIN 983L / AL

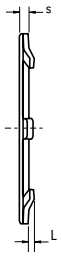
						DATA					
Part Number	d_2	Tolerance	m min.	t	n	FN [kN]	FR [kN]	g	FRg [kN]	L min.	C [kN / mm]
AL16	15.2	-0.11	0.70	0.40	1.2	3.26	2.20	1.0	0.70	0.35	0.43
AL17	16.2		0.70	0.40	1.2	3.46	2.10	1.0	0.65	0.35	0.38
AL18	17.0		0.90	0.50	1.5	4.58	5.04	1.5	1.12	0.35	0.82
AL19	18.0		0.90	0.50	1.5	4.85	5.04	1.5	1.13	0.35	0.81
AL20	19.0	-0.15	1.30	0.50	1.5	5.06	17.10	1.5	3.85	0.35	2.58
AL22	21.0		1.30	0.50	1.5	5.65	16.90	1.5	3.80	0.35	2.27
AL23	22.0		1.30	0.50	1.5	5.90	16.60	1.5	3.80	0.35	2.17
AL24	22.9	-0.21	1.30	0.55	1.6	6.75	16.10	1.5	3.65	0.40	1.99
AL25	23.9		1.30	0.55	1.6	7.05	16.20	1.5	3.70	0.40	1.89
AL26	24.9		1.30	0.55	1.6	7.34	16.10	1.5	3.70	0.40	1.78
AL28	26.6		1.60	0.70	2.1	10.00	32.10	1.5	7.50	0.40	3.28
AL29	27.6		1.60	0.70	2.1	10.37	31.80	1.5	7.45	0.40	3.03
AL30	28.6		1.60	0.70	2.1	10.70	32.10	1.5	7.65	0.40	2.97
AL32	30.3	-0.25	1.60	0.85	2.5	13.85	31.20	2.0	5.55	0.45	2.57
AL34	32.3		1.60	0.85	2.5	14.72	31.30	2.0	5.60	0.45	2.45
AL35	33.0		1.60	1.00	3.0	17.80	30.80	2.0	5.50	0.50	2.32
AL37	35.0		1.60	1.00	3.0	18.80	30.00	2.0	5.40	0.50	2.08
AL38	36.0		1.85	1.00	3.0	19.30	49.50	2.0	9.10	0.50	3.26
AL40	37.5		1.85	1.25	3.8	25.30	51.00	2.0	9.50	0.60	1.98
AL42	39.5		1.85	1.25	3.8	26.70	50.00	2.0	9.45	0.60	1.91
AL45	42.5		1.85	1.25	3.8	28.60	49.00	2.0	9.35	0.60	1.86
AL47	44.5		1.85	1.25	3.8	30.00	49.50	2.0	9.50	0.60	1.85
AL48	45.5		1.85	1.25	3.8	30.70	49.40	2.0	9.50	0.60	1.84
AL50	47.0		2.15	1.50	4.5	38.00	73.30	2.0	14.40	0.80	2.05
AL55	52.0	-0.30	2.15	1.50	4.5	42.00	71.40	2.5	11.40	0.80	2.04
AL58	55.0		2.15	1.50	4.5	44.30	71.10	2.5	11.50	0.80	2.02
AL60	57.0		2.15	1.50	4.5	46.00	69.30	2.5	11.30	0.80	1.97
AL62	59.0		2.15	1.50	4.5	47.50	69.30	2.5	11.40	0.80	1.97
AL65	62.0		2.65	1.50	4.5	49.90	135.60	2.5	22.70	1.00	2.45
AL70	67.0		2.65	1.50	4.5	53.80	134.20	2.5	23.00	1.00	2.41
AL75	72.0		2.65	1.50	4.5	57.60	130.00	2.5	22.80	1.00	2.34
AL80	76.5		2.65	1.75	5.3	71.60	128.40	3.0	19.50	1.00	2.36
AL85	81.5	-0.54	3.15	1.75	5.3	76.20	215.40	3.0	33.40	1.00	4.05
AL90	86.5		3.15	1.75	5.3	80.80	217.20	3.0	34.40	1.00	4.01
AL95	91.5		3.15	1.75	5.3	85.50	212.20	3.5	29.30	1.00	4.00

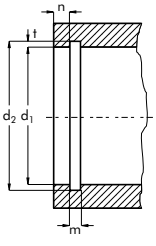
L-rings for bores

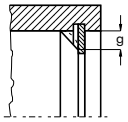
DIN 984L / JL

d_1	Part Number	s	Tolerance	d_3	Tolerance	a max.	b ≈	d_5 min.	Weight [kg / 1000]
16	JL16	0.60	+0.00	17.3	+0.42	3.4	2.1	1.7	0.72
17	JL17	0.60	- 0.05	18.3	-0.13	3.7	2.2	1.7	0.80
18	JL18	0.80		19.5		4.1	2.3	1.7	0.90
19	JL19	0.80		20.5		3.8	2.3	2.0	0.99
20	JL20	1.00	+0.00	21.5		3.9	2.4	2.0	1.06
21	JL21	1.00	-0.06	22.5		4.0	2.4	2.0	1.17
22	JL22	1.00		23.5		4.0	2.6	2.0	1.28
23	JL23	1.20		24.6		4.1	2.6	2.0	1.48
24	JL24	1.20		25.9	+0.42	4.2	2.6	2.0	1.60
25	JL25	1.20		26.9	-0.21	4.4	2.8	2.0	1.72
26	JL26	1.20		28.5		4.4	2.8	2.0	2.00
27	JL27	1.20		29.1		4.5	2.9	2.0	2.00
28	JL28	1.20		30.1	+0.50	4.9	3.0	2.0	2.10
30	JL30	1.20		32.1	-0.25	4.9	3.2	2.0	2.35
32	JL32	1.20		34.4		5.1	3.3	2.5	2.50
34	JL34	1.50		36.5		5.3	3.4	2.5	3.80
35	JL35	1.50		37.8		5.5	3.6	2.5	4.00
36	JL36	1.50		38.8		5.6	3.6	2.5	4.15
38	JL38	1.50		40.8		6.1	3.8	2.5	4.40
40	JL40	1.75		43.5	+0.90	7.2	4.0	2.5	5.30
42	JL42	1.75		45.5	-0.39	7.2	4.1	2.5	6.00
45	JL45	1.75		48.5		7.2	4.3	2.5	6.60
47	JL47	1.75		50.5	+1.10	7.2	4.5	2.5	6.90
50	JL50	2.00	+0.00	54.2	-0.46	8.2	4.7	2.5	8.50
52	JL52	2.00	- 0.07	56.2		8.2	4.7	2.5	9.40
55	JL55	2.00		59.2		8.2	5.1	2.5	9.75
57	JL57	2.00		61.2		8.2	5.2	2.5	11.65
60	JL60	2.00		64.2		8.2	5.5	2.5	12.70
62	JL62	2.00		66.2		8.2	5.6	2.5	12.75
65	JL65	2.50		69.2		10.2	5.8	3.0	16.70
70	JL70	2.50		74.5		10.2	6.2	3.0	20.20
72	JL72	2.50		76.5		10.2	6.4	3.0	21.20
75	JL75	2.50		79.5		10.2	6.6	3.0	22.60
80	JL80	2.50		85.5	+1.30	10.2	7.0	3.0	25.00
90	JL90	3.00	+0.00	95.5	-0.54	12.2	7.7	3.5	35.50
100	JL100	3.00	- 0.08	105.5		12.2	8.5	3.5	43.50









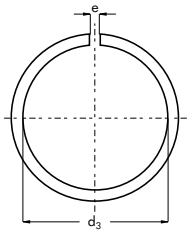
DIN 984L / JL

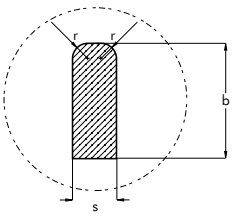
						DATA					
Part Number	d_2	Tolerance	m min.	t	n	FN [kN]	FR [kN]	g	FRg [kN]	L min.	C [kN / mm]
JL16	16.8	+0.11 / −0.00	0.70	0.40	1.2	3.40	1.75	1.0	0.56	0.25	0.47
JL17	17.8	+0.15	0.70	0.40	1.2	3.60	1.71	1.0	0.54	0.25	0.38
JL18	19.0	-0.00	0.90	0.50	1.5	4.80	4.20	1.0	1.33	0.25	0.72
JL19	20.0		0.90	0.50	1.5	5.10	4.06	1.0	1.29	0.25	0.86
JL20	21.0		1.10	0.50	1.5	5.40	7.80	1.0	2.50	0.25	1.55
JL21	22.0		1.10	0.50	1.5	5.70	8.10	1.0	2.60	0.25	1.50
JL22	23.0		1.10	0.50	1.5	5.90	8.35	1.0	2.70	0.35	1.52
JL23	24.1		1.30	0.55	1.6	6.80	13.80	1.0	4.50	0.35	2.42
JL24	25.2	+0.21	1.30	0.60	1.8	7.70	13.90	1.0	4.60	0.35	2.26
JL25	26.2	-0.00	1.30	0.60	1.8	8.00	14.60	1.0	4.70	0.35	2.12
JL26	27.2		1.30	0.60	1.8	8.40	13.80	1.0	4.60	0.35	2.04
JL27	28.4		1.30	0.70	2.1	10.10	13.30	1.0	4.50	0.35	1.94
JL28	29.4		1.30	0.70	2.1	10.50	13.30	1.0	4.50	0.35	1.57
JL30	31.4	+0.25	1.30	0.70	2.1	11.30	13.70	1.0	4.60	0.35	1.58
JL32	33.7	-0.00	1.30	0.85	2.5	14.60	13.80	1.0	4.60	0.35	1.55
JL34	35.7		1.60	0.85	2.5	15.40	26.20	1.5	6.30	0.45	2.65
JL35	37.0		1.60	1.00	3.0	18.80	26.90	1.5	6.40	0.45	2.61
JL36	38.0		1.60	1.00	3.0	19.40	26.40	1.5	6.40	0.45	2.48
JL38	40.0		1.60	1.00	3.0	22.50	28.20	1.5	6.70	0.45	2.07
JL40	42.5		1.85	1.25	3.8	27.00	44.60	2.0	8.30	0.55	2.42
JL42	44.5		1.85	1.25	3.8	28.40	44.70	2.0	8.40	0.55	2.44
JL45	47.5		1.85	1.25	3.8	30.20	43.10	2.0	8.20	0.55	2.36
JL47	49.5		1.85	1.25	3.8	31.40	43.50	2.0	8.30	0.55	2.39
JL50	53.0	+0.30	2.15	1.50	4.5	40.40	60.80	2.0	12.10	0.65	2.64
JL52	55.0	-0.00	2.15	1.50	4.5	42.00	60.20	2.0	12.00	0.65	2.57
JL55	58.0		2.15	1.50	4.5	44.40	60.30	2.0	12.50	0.65	2.64
JL57	60.0		2.15	1.50	4.5	46.00	60.80	2.0	12.70	0.65	2.67
JL60	63.0		2.15	1.50	4.5	48.30	61.00	2.0	13.00	0.65	2.68
JL62	65.0		2.15	1.50	4.5	49.80	60.90	2.0	13.00	0.65	2.67
JL65	68.0		2.65	1.50	4.5	51.80	121.00	2.5	20.80	0.90	3.62
JL70	73.0		2.65	1.50	4.5	56.20	119.00	2.5	21.00	0.90	3.02
JL72	75.0		2.65	1.50	4.5	58.00	119.20	2.5	21.00	0.90	3.01
JL75	78.0		2.65	1.50	4.5	60.00	118.00	2.5	21.00	0.90	2.99
JL80	83.5	+0.35	2.65	1.75	5.3	74.60	120.90	2.5	21.80	0.90	3.24
JL90	93.5	-0.00	3.15	1.75	5.3	84.00	199.00	3.0	31.40	0.90	3.47
JL100	103.5		3.15	1.75	5.3	93.10	188.00	3.0	30.80	0.90	3.42

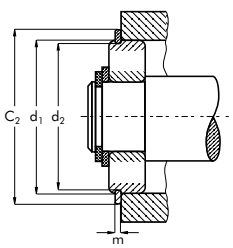
Snap rings for roller bearings

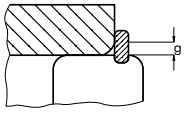
DIN 5417 / M3200 / SP

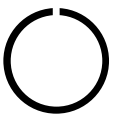
d_1	Part Number	s	Tolerance	b	Tolerance	d_3	Tolerance	e ≈	r min.	Weight
										[kg / 1000]
30	SP30	1.12	-0.1	3.25	- 0.15	27.4	+0.4	3	0.4	2.8
32	SP32	1.12		3.25		29.4		3	0.4	3.0
35	SP35	1.12		3.25		32.4		3	0.4	3.2
37	SP37	1.12		3.25		34.0		3	0.4	3.4
40	SP40	1.12		3.25		37.3		3	0.4	3.6
42	SP42	1.12		3.25		38.9	+0.5	3	0.4	3.8
44	SP44	1.12		3.25		40.9		3	0.4	4.0
47	SP47	1.12		4.04		43.7		4	0.4	5.3
50	SP50	1.12		4.04		46.6		4	0.4	5.8
52	SP52	1.12		4.04		48.8		4	0.4	5.9
55	SP55	1.12		4.04		51.7		4	0.4	6.2
56	SP56	1.12		4.04		52.4	+0.8	4	0.4	6.5
58	SP58	1.12		4.04		54.4		4	0.4	6.7
62	SP62	1.70		4.04		58.2		4	0.6	10.5
65	SP65	1.70		4.04		61.2		4	0.6	11.0
68	SP68	1.70		4.85		63.4		5	0.6	12.6
72	SP72	1.70		4.85		67.4		5	0.6	14.7
75	SP75	1.70		4.85		70.4		5	0.6	15.3
80	SP80	1.70		4.85		75.4		5	0.6	16.3
85	SP85	1.70		4.85		80.4		5	0.6	17.5
90	SP90	2.46		4.85		85.4		5	0.7	26.6
95	SP95	2.46		4.85		90.4		5	0.7	28.2
100	SP100	2.46		4.85		95.2	+1.0	5	0.7	29.2
110	SP110	2.46		4.85		105.2		5	0.7	32.8
115	SP115	2.46		4.85		110.2		5	0.7	34.4
120	SP120	2.82		7.21		113.6		7	0.7	60.6
125	SP125	2.82		7.21		118.6		7	0.7	63.0
130	SP130	2.82		7.21		123.6		7	0.7	65.6
140	SP140	2.82		7.21		133.0	+1.6	7	0.7	70.6
145	SP145	2.82		7.21		138.0		7	0.7	73.0
150	SP150	2.82		7.21		142.9		7	0.7	77.2
160	SP160	2.82		7.21		152.9		7	0.7	81.0
170	SP170	3.10		9.60		161.3		10	0.7	122.0
180	SP180	3.10		9.60		171.2		10	0.7	128.0
190	SP190	3.10		9.60		181.0	+1.8	10	0.7	139.0











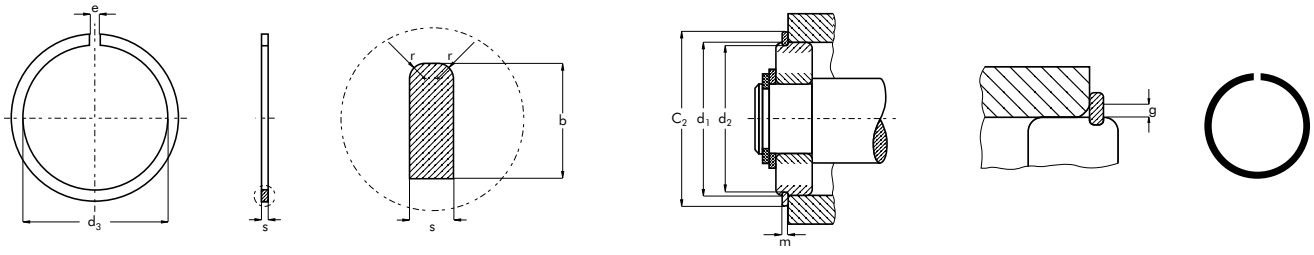
DIN 5417 / M3200 / SP

						DATA					
Part Number	d_2	Tolerance	m	Tolerance	C_2	FN [kN]	FR [kN]	g	FRg [kN]	K [kN / mm]	$n_{abl.}$ x1000 [rpm]
SP30	28.17	- 0.25	1.35	+0.3	34.7	13.7	16.6	2.0	2.91	35.1	16
SP32	30.15		1.35		36.7	14.6	14.6	2.0	2.57	30.0	13
SP35	33.17		1.35		39.7	16.0	13.4	2.0	2.42	28.0	11
SP37	34.77		1.35		41.3	20.7	13.6	2.0	2.45	26.6	10
SP40	38.10		1.35		44.6	19.3	13.5	2.0	2.50	24.2	8
SP42	39.75		1.35		46.3	23.5	12.9	2.0	2.39	23.4	7
SP44	41.75		1.35		48.3	24.6	12.4	2.0	2.29	22.6	7
SP47	44.60		1.35		52.7	28.8	12.1	2.0	2.29	22.4	7
SP50	47.60		1.35		55.7	30.6	13.3	2.0	2.60	24.3	6
SP52	49.73		1.35		57.9	31.6	12.8	2.5	2.01	23.4	6
SP55	52.60		1.35		60.7	33.8	11.8	2.5	1.90	22.0	5
SP56	53.60		1.35		61.7	34.5	12.1	2.5	1.95	21.6	5
SP58	55.60		1.35		63.7	35.6	11.5	2.5	1.89	21.0	5
SP62	59.61	- 0.50	1.90		67.7	38.1	37.6	2.5	6.18	68.6	5
SP65	62.60		1.90		70.7	40.0	34.9	2.5	5.89	65.3	4
SP68	64.82		1.90		74.6	55.5	40.9	2.5	7.06	75.0	4
SP72	68.81		1.90		78.6	59.0	38.9	2.5	6.17	71.3	4
SP75	71.83		1.90		81.6	61.5	36.6	2.5	6.46	68.6	3
SP80	76.81		1.90		86.6	65.7	34.8	3.0	5.25	64.0	3
SP85	81.81		1.90		91.6	70.0	33.5	3.0	5.16	60.5	3
SP90	86.79		2.70		96.5	74.0	93.9	3.0	14.80	174.0	2
SP95	91.82		2.70		101.6	76.3	86.8	3.5	12.00	164.0	2
SP100	96.80		2.70		106.5	82.5	80.8	3.5	11.40	155.0	2
SP110	106.81		2.70		116.6	90.7	71.2	3.5	10.40	142.0	1
SP115	111.81		2.70		121.6	97.7	66.6	3.5	10.00	136.0	1
SP120	115.21		3.10		129.7	143.0	140.0	3.5	21.30	291.0	2
SP125	120.22		3.10		134.7	155.0	132.0	4.0	17.90	279.0	2
SP130	125.22		3.10		139.7	166.0	124.7	4.0	17.30	269.0	1
SP140	135.23		3.10		149.7	180.0	111.6	4.0	16.00	249.0	1
SP145	140.23		3.10		154.7	186.0	106.4	4.0	15.50	242.0	1
SP150	145.24		3.10		159.7	193.0	101.5	4.0	15.00	234.0	1
SP160	155.22		3.10		169.7	206.0	92.0	4.0	14.10	220.0	1
SP170	163.65		3.50		182.9	283.0	148.0	5.0	18.70	363.0	1
SP180	173.66		3.50		192.9	292.0	135.0	5.0	17.70	344.0	1
SP190	183.64		3.50		202.9	311.0	124.0	5.0	16.70	324.0	1

Snap rings for roller bearings

DIN 5417 / M3200 / SP

d_1	Part Number	s	Tolerance	b	Tolerance	d_3	Tolerance	e ≈	r min.	Weight
										[kg / 1000]
200	SP200	3.10	- 0.1	9.60	- 0.15	191.0	+1.8	10	0.7	148.0
210	SP210	3.10		9.60		200.9		10	1.2	156.0
215	SP215	3.10		9.60		205.9		10	1.2	160.0
225	SP225	3.50		10.00		214.3		10	1.2	196.0
230	SP230	3.50		10.00		219.2		10	1.2	200.0
240	SP240	3.50		10.00		229.2		10	1.2	209.0
250	SP250	3.50		10.00		239.2		10	1.2	220.0
260	SP260	3.50		10.00	- 0.30	247.5	+2.5	10	1.2	230.0
270	SP270	3.50		10.00		257.5		10	1.2	240.0
280	SP280	3.50		10.00		267.5		10	1.2	250.0
290	SP290	3.50		10.00		277.5		10	1.2	260.0
300	SP300	4.50	- 0.2	12.00		284.5		10	1.5	400.0
310	SP310	4.50		12.00		294.0	+3.0	10	1.5	412.0
320	SP320	4.50		12.00		304.0		10	1.5	420.0
340	SP340	4.50		12.00		324.0		10	1.5	446.0
360	SP360	4.50		12.00		343.0		10	1.5	475.0
370	SP370	4.50		12.00		353.0		10	1.5	485.0
380	SP380	4.50		12.00		363.0		10	1.5	500.0
400	SP400	4.50		12.00		383.0		10	1.5	525.0



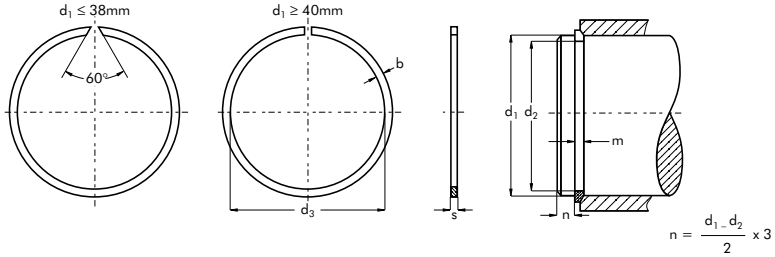
DIN 5417 / M3200 / SP

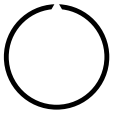
						DATA					
Part Number	d_2	Tolerance	m	Tolerance	C_2	FN [kN]	FR [kN]	g	FRg [kN]	K [kN / mm]	$n_{abl.}$ x1000 [rpm]
SP200	193.65	- 0.50	3.50	+0.3	212.9	336.0	116.0	5.0	16.00	311.0	1.0
SP210	203.60		3.50		222.8	356.0	106.0	6.0	12.70	295.0	1.0
SP215	208.60		3.50		227.8	376.0	103.0	6.0	12.40	288.0	1.0
SP225	217.00		4.50	+0.4	237.0	462.0	144.0	6.0	17.90	416.0	1.0
SP230	222.00		4.50		242.0	473.0	139.1	6.0	17.40	406.0	1.0
SP240	232.00		4.50		252.0	495.0	130.0	6.0	16.80	390.0	0.5
SP250	242.00		4.50		262.0	514.0	122.0	6.0	16.10	374.0	0.5
SP260	252.00		4.50		272.0	536.0	114.0	6.0	15.50	360.0	0.5
SP270	262.00		4.50		282.0	556.0	107.0	6.0	14.90	347.0	0.5
SP280	272.00		4.50		292.0	578.0	101.0	6.0	14.40	335.0	0.5
SP290	282.00		4.50		302.0	598.0	95.4	6.0	13.90	323.0	0.4
SP300	290.00		5.50	+0.5	314.0	694.0	230.0	7.0	34.20	795.0	0.6
SP310	300.00		5.50		324.0	800.0	218.0	7.0	28.40	770.0	0.5
SP320	310.00		5.50		334.0	824.0	207.0	7.0	27.60	747.0	0.5
SP340	330.00		5.50		354.0	875.0	187.0	7.0	26.00	702.0	0.4
SP360	350.00		5.50		374.0	930.0	169.0	7.0	24.50	664.0	0.4
SP370	360.00		5.50		384.0	955.0	162.0	7.0	23.80	646.0	0.4
SP380	370.00		5.50		394.0	995.0	154.0	7.0	23.20	629.0	0.4
SP400	390.00		5.50		414.0	1040.0	144.0	7.0	22.10	598.0	0.3

Snap rings for shafts

M2400 / SW

d_1	Part Number	s [-0.1]	b [-0.1]	d_3 max.	Weight [kg / 1000]
4	SW4	0.5	0.80	3.7	0.02
5	SW5	0.5	1.00	4.7	0.05
6	SW6	0.7	1.10	5.6	0.09
7	SW7	0.7	1.20	6.5	0.12
8	SW8	1.0	1.30	7.4	0.20
9	SW9	1.0	1.30	8.4	0.24
10	SW10	1.0	1.30	9.4	0.25
11	SW11	1.0	1.30	10.2	0.29
12	SW12	1.0	1.30	11.2	0.30
13	SW13	1.0	1.30	12.2	0.34
14	SW14	1.2	1.50	13.1	0.50
15	SW15	1.2	1.75	14.0	0.66
16	SW16	1.2	1.75	15.0	0.69
17	SW17	1.2	1.75	16.0	0.72
18	SW18	1.2	1.75	17.0	0.75
19	SW19	1.2	1.75	17.9	0.80
20	SW20	1.2	1.75	18.7	0.84
21	SW21	1.2	1.75	19.7	0.87
22	SW22	1.2	1.75	20.7	0.91
24	SW24	1.2	1.75	22.5	0.99
25	SW25	1.2	1.75	23.5	1.00
26	SW26	1.2	1.75	24.5	1.10
27	SW27	1.5	2.30	25.5	2.00
28	SW28	1.5	2.30	26.5	2.11
29	SW29	1.5	2.30	27.5	2.20
30	SW30	1.5	2.30	28.5	2.33
32	SW32	1.5	2.30	30.2	2.41
35	SW35	1.5	2.30	33.2	2.51
37	SW37	1.5	2.30	35.2	2.72
38	SW38	1.5	2.30	36.2	2.83
40	SW40	1.5	2.30	37.8	2.91
42	SW42	1.5	2.30	39.8	3.10
43	SW43	1.5	2.30	40.8	3.25
45	SW45	1.5	2.30	42.8	3.39
47	SW47	1.5	2.30	44.8	3.48





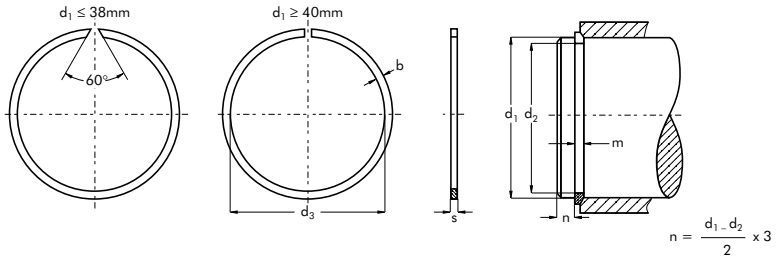
M2400 / SW

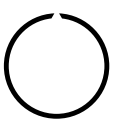
				DATA		
Part Number	d_2	Tolerance	m min.	FN [kN]	FR [kN]	$n_{det.}$ x1000 [rpm]
SW4	3.8	- 0.09	0.6	0.20	1.25	275
SW5	4.8		0.6	0.26	1.30	192
SW6	5.7		0.8	0.46	3.50	141
SW7	6.7		0.8	0.54	3.50	134
SW8	7.6		1.1	0.82	11.30	108
SW9	8.6		1.1	0.92	10.60	80
SW10	9.6		1.1	1.03	10.30	68
SW11	10.5	- 0.11	1.1	1.40	9.80	64
SW12	11.5		1.1	1.53	9.30	53
SW13	12.5		1.1	1.70	8.90	43
SW14	13.5		1.3	1.80	17.00	45
SW15	14.4		1.3	2.30	18.70	44
SW16	15.4		1.3	2.47	17.70	38
SW17	16.4		1.3	2.63	17.00	34
SW18	17.4		1.3	2.78	16.20	30
SW19	18.4	- 0.13	1.3	2.94	15.60	29
SW20	19.2		1.3	4.10	15.00	26
SW21	20.2		1.3	4.30	14.60	23
SW22	21.2		1.3	4.50	14.00	21
SW24	23.0		1.3	6.15	13.30	18
SW25	24.0		1.3	6.40	12.80	16
SW26	25.0		1.3	6.65	12.50	15
SW27	26.0		1.6	6.95	30.00	16
SW28	27.0		1.6	7.20	29.30	15
SW29	28.0		1.6	7.45	28.20	14
SW30	29.0		1.6	7.70	27.50	13
SW32	30.8	- 0.16	1.6	9.90	26.50	13
SW35	33.8		1.6	10.80	24.40	11
SW37	35.8		1.6	11.30	23.50	9
SW38	36.8		1.6	11.60	22.70	9
SW40	38.5		1.6	15.50	22.00	8
SW42	40.5		1.6	16.20	21.40	7
SW43	41.5		1.6	16.50	21.10	7
SW45	43.5		1.6	17.30	20.60	6
SW47	45.5		1.6	18.20	19.20	6

Snap rings for shafts

M2400 / SW

d_1	Part Number	s [-0.1]	b [-0.1]	d_3 max.	Weight [kg / 1000]
48	SW48	1.5	2.30	45.8	3.60
50	SW50	1.5	2.30	47.8	3.73
52	SW52	1.5	2.30	49.8	3.92
55	SW55	1.5	2.30	52.6	4.11
58	SW58	1.5	2.30	55.6	4.40
60	SW60	1.5	2.30	57.6	4.55
63	SW63	1.5	2.30	60.6	4.58
65	SW65	1.5	2.30	62.6	4.64
68	SW68	2.0	2.80	65.4	8.59
70	SW70	2.0	2.80	67.4	8.71
72	SW72	2.0	2.80	69.4	8.80
73	SW73	2.0	2.80	70.4	8.90
75	SW75	2.0	2.80	72.4	9.32
80	SW80	2.0	2.80	77.4	9.67
85	SW85	2.5	3.40	82.0	16.00
90	SW90	2.5	3.40	87.0	16.00
95	SW95	2.5	3.40	92.0	18.20
100	SW100	2.5	3.40	97.0	18.90
105	SW105	2.5	3.40	101.7	20.70
110	SW110	2.5	3.40	106.6	20.90
115	SW115	2.5	3.40	111.6	22.10
120	SW120	2.5	3.40	116.5	24.10
125	SW125	2.5	3.40	121.5	25.10
130	SW130	2.5	3.40	126.4	26.60
135	SW135	2.5	4.00	131.1	30.20
140	SW140	2.5	4.00	136.0	31.10
145	SW145	2.5	4.00	141.0	32.60
150	SW150	2.5	4.00	145.9	32.80
155	SW155	2.5	4.00	150.9	34.70
160	SW160	2.5	4.00	155.8	36.60
165	SW165	2.5	4.00	160.8	37.40
170	SW170	2.5	4.00	165.7	38.50
175	SW175	2.5	4.00	170.7	39.40
180	SW180	3.0	5.00	175.2	61.20
185	SW185	3.0	5.00	180.2	63.90





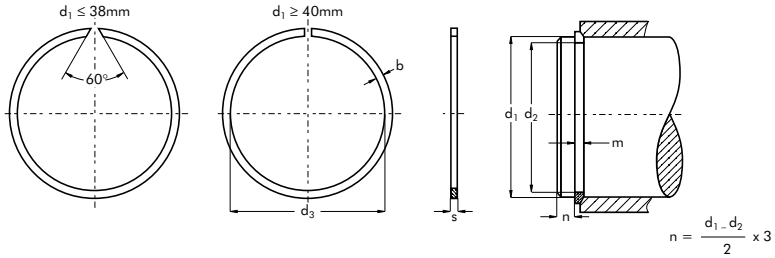
M2400 / SW

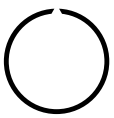
				DATA		
Part Number	d_2	Tolerance	m min.	FN [kN]	FR [kN]	$n_{det.}$ x1000 [rpm]
SW48	46.5	- 0.16	1.6	18.70	18.60	5.0
SW50	48.5		1.6	19.50	18.10	5.0
SW52	50.5	- 0.19	1.6	20.20	17.70	4.0
SW55	53.5		1.6	21.00	16.50	4.0
SW58	56.5		1.6	22.50	15.70	4.0
SW60	58.5		1.6	23.20	15.40	4.0
SW63	61.5		1.6	24.40	14.70	3.0
SW65	63.5		1.6	25.20	14.20	3.0
SW68	66.2		2.2	31.70	39.60	3.0
SW70	68.2		2.2	32.50	38.40	3.0
SW72	70.2		2.2	33.70	37.60	3.0
SW73	71.2		2.2	34.00	37.00	3.0
SW75	73.2		2.2	35.00	36.20	2.0
SW80	78.2		2.2	37.40	34.20	2.0
SW85	83.0	- 0.22	2.7	44.00	72.00	2.0
SW90	88.0		2.7	46.50	66.30	2.0
SW95	93.0		2.7	49.20	61.80	2.0
SW100	98.0		2.7	51.90	57.30	2.0
SW105	102.7		2.7	65.00	54.00	2.0
SW110	107.7		2.7	69.00	50.40	1.0
SW115	112.7		2.7	71.00	47.20	1.0
SW120	117.7		2.7	75.00	44.80	1.0
SW125	122.7	- 0.25	2.7	78.50	41.80	1.0
SW130	127.7		2.7	84.00	39.60	1.0
SW135	132.4		2.7	87.00	44.00	1.0
SW140	137.4		2.7	91.50	41.60	1.0
SW145	142.4		2.7	95.00	39.60	1.0
SW150	147.4		2.7	98.00	37.50	1.0
SW155	154.4		2.7	100.00	36.30	1.0
SW160	157.4		2.7	103.00	35.60	1.0
SW165	162.4		2.7	106.00	34.20	0.5
SW170	167.4		2.7	108.00	33.50	0.5
SW175	172.4		2.7	117.00	32.20	0.4
SW180	177.0		3.2	140.00	67.50	1.0
SW185	182.0		3.2	144.00	66.20	1.0

Snap rings for shafts

M2400 / SW

d_1	Part Number	s [-0.1]	b [-0.1]	d_3 max.	Weight [kg / 1000]
190	SW190	3.0	5.0	185.1	65.90
195	SW195	3.0	5.0	190.1	67.50
200	SW200	3.0	5.0	196.0	68.40
210	SW210	3.0	5.0	204.9	72.00
220	SW220	3.0	5.0	214.8	76.30
230	SW230	3.0	5.0	224.7	79.80
240	SW240	3.0	5.0	234.6	81.70
250	SW250	3.0	5.0	244.5	86.50
260	SW260	4.0	7.5	252.4	179.00
265	SW265	4.0	7.5	257.4	185.20
270	SW270	4.0	7.5	262.3	197.70
280	SW280	4.0	7.5	272.2	198.70
285	SW285	4.0	7.5	277.2	199.50
290	SW290	4.0	7.5	282.1	205.30
300	SW300	4.0	7.5	292.1	214.20
305	SW305	4.0	7.5	297.1	219.40
310	SW310	4.0	7.5	302.0	223.10
320	SW320	4.0	7.5	311.9	225.30
330	SW330	4.0	7.5	321.8	228.60
340	SW340	4.0	7.5	331.7	239.30
350	SW350	4.0	7.5	341.6	251.20
360	SW360	4.0	7.5	351.5	253.10
370	SW370	4.0	7.5	361.5	259.20
380	SW380	4.0	7.5	371.4	265.80
390	SW390	4.0	7.5	381.3	273.90
400	SW400	4.0	7.5	391.2	281.10
420	SW420	4.5	12.0	410.0	531.00
460	SW460	4.5	12.0	449.5	582.00





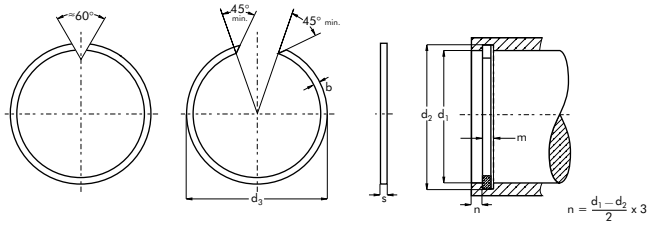
M2400 / SW

				DATA		
Part Number	d_2	Tolerance	m min.	FN [kN]	FR [kN]	$n_{det.}$ x1000 [rpm]
SW190	187.0	- 0.29	3.2	148.0	64.0	1.0
SW195	192.0		3.2	152.0	62.6	1.0
SW200	197.0		3.2	156.0	61.4	0.5
SW210	207.0		3.2	164.0	58.0	0.5
SW220	217.0		3.2	171.0	55.5	0.4
SW230	227.0		3.2	180.0	53.0	0.3
SW240	237.0		3.2	187.0	51.0	0.3
SW250	247.0	- 0.32	3.2	195.0	49.0	0.3
SW260	255.0		4.2	338.0	168.0	0.4
SW265	260.0		4.2	344.0	165.0	0.4
SW270	265.0		4.2	350.0	162.0	0.4
SW280	275.0		4.2	362.0	155.0	0.4
SW285	280.0		4.2	370.0	151.0	0.3
SW290	285.0		4.2	377.0	148.0	0.3
SW300	295.0	- 0.32	4.2	390.0	145.0	0.3
SW305	300.0		4.2	396.0	142.0	0.3
SW310	305.0		4.2	402.0	139.0	0.3
SW320	315.0		4.2	416.0	137.0	0.3
SW330	325.0	- 0.36	4.2	428.0	132.0	0.2
SW340	335.0		4.2	442.0	129.0	0.2
SW350	345.0		4.2	455.0	123.0	0.2
SW360	355.0		4.2	468.0	120.0	0.2
SW370	365.0		4.2	482.0	117.0	0.2
SW380	375.0		4.2	494.0	115.0	0.2
SW390	385.0		4.2	507.0	112.0	0.2
SW400	395.0		4.2	521.0	109.0	0.1
SW420	415.0		4.8	547.0	133.0	0.3
SW460	455.0		4.8	600.0	126.0	0.2

Snap Rings for bores

M2300 / SB

d_1	Part Number	s (-0.1)	b (-0.1)	d_3 min.	Weight [kg / 1000]
7	SB7	0.8	1.00	7.5	0.09
8	SB8	0.8	1.00	8.5	0.10
9	SB9	0.8	1.10	9.5	0.13
10	SB10	0.8	1.20	10.6	0.15
11	SB11	1.0	1.30	11.6	0.21
12	SB12	1.0	1.30	12.7	0.25
13	SB13	1.0	1.30	13.8	0.28
14	SB14	1.0	1.30	14.8	0.31
15	SB15	1.0	1.30	15.8	0.34
16	SB16	1.2	1.60	16.8	0.53
17	SB17	1.2	1.70	17.8	0.55
18	SB18	1.2	1.75	18.9	0.68
19	SB19	1.2	1.75	19.9	0.72
20	SB20	1.2	1.75	21.0	0.76
21	SB21	1.2	1.75	22.0	0.79
22	SB22	1.2	1.75	23.0	0.81
23	SB23	1.2	1.75	24.0	0.88
24	SB24	1.2	1.75	25.2	0.90
25	SB25	1.2	1.75	26.2	0.91
26	SB26	1.2	1.75	27.2	0.98
27	SB27	1.2	1.75	28.2	1.11
28	SB28	1.2	1.75	29.2	1.13
29	SB29	1.2	1.75	30.2	1.15
30	SB30	1.5	2.30	31.4	2.00
31	SB31	1.5	2.30	32.4	2.03
32	SB32	1.5	2.30	33.4	2.11
33	SB33	1.5	2.30	34.4	2.26
34	SB34	1.5	2.30	35.4	2.34
35	SB35	1.5	2.30	36.4	2.36
37	SB37	1.5	2.30	38.8	2.53
38	SB38	1.5	2.30	39.8	2.61
39	SB39	1.5	2.30	40.8	2.67
40	SB40	1.5	2.30	41.8	2.80
42	SB42	1.5	2.30	43.8	2.92
43	SB43	1.5	2.30	44.8	3.03
44	SB44	1.5	2.3	45.8	3.11
45	SB45	1.5	2.3	46.8	3.25
46	SB46	1.5	2.3	47.8	3.28
47	SB47	1.5	2.3	48.8	3.29
48	SB48	1.5	2.3	49.8	3.45



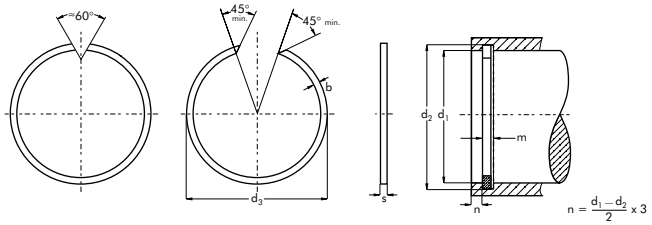
M2300 / SB

				DATA	
Part Number	d_2	Tolerance	m min.	FN [kN]	FR [kN]
SB7	7.3	+0.09	0.9	0.55	3.30
SB8	8.3		0.9	0.65	3.25
SB9	9.3		0.9	0.70	3.20
SB10	10.4		0.9	1.05	3.15
SB11	11.4	+0.11	1.1	1.15	9.15
SB12	12.4		1.1	1.30	8.90
SB13	13.5		1.1	1.75	8.80
SB14	14.5		1.1	1.90	8.20
SB15	15.5		1.1	2.00	7.70
SB16	16.5		1.3	2.10	15.50
SB17	17.5		1.3	2.25	15.40
SB18	18.5	+0.13	1.3	2.40	15.10
SB19	19.6		1.3	3.00	14.80
SB20	20.6		1.3	3.20	14.20
SB21	21.6		1.3	3.35	13.70
SB22	22.6		1.3	3.50	13.10
SB23	23.6		1.3	3.65	12.80
SB24	24.8		1.3	5.10	12.50
SB25	25.8		1.3	5.30	12.00
SB26	26.8		1.3	5.50	11.50
SB27	27.8		1.3	5.70	11.30
SB28	28.8		1.3	5.95	11.00
SB29	29.8		1.3	6.15	10.90
SB30	31.0	+0.16	1.6	8.00	26.00
SB31	32.0		1.6	8.25	25.60
SB32	33.0		1.6	8.50	25.00
SB33	34.0		1.6	8.75	24.60
SB34	35.0		1.6	9.00	23.80
SB35	36.0		1.6	9.30	23.30
SB37	38.2		1.6	11.75	22.00
SB38	39.2		1.6	12.15	21.60
SB39	40.2		1.6	12.40	21.00
SB40	41.2		1.6	12.70	20.70
SB42	43.2		1.6	13.30	19.80
SB43	44.2		1.6	13.70	19.60
SB44	45.2		1.6	14.00	19.30
SB45	46.2		1.6	14.25	19.00
SB46	47.2		1.6	14.65	18.40
SB47	48.2		1.6	14.90	18.10
SB48	49.2		1.6	15.30	17.60

Snap Rings for bores

M2300 / SB

d_1	Part Number	s (-0.1)	b (-0.1)	d_3 min.	Weight [kg / 1000]
50	SB50	1.5	2.3	51.8	3.57
52	SB52	1.5	2.3	54.3	3.58
53	SB53	1.5	2.3	55.3	3.82
55	SB55	1.5	2.3	57.3	3.93
57	SB57	1.5	2.3	59.3	4.12
58	SB58	1.5	2.3	60.3	4.13
60	SB60	1.5	2.3	62.3	4.28
62	SB62	1.5	2.3	64.3	4.42
63	SB63	1.5	2.3	65.3	4.50
65	SB65	1.5	2.3	67.3	4.72
68	SB68	1.5	2.3	70.3	4.90
70	SB70	1.5	2.3	72.3	4.93
72	SB72	2.0	2.8	74.6	8.49
73	SB73	2.0	2.8	75.6	8.52
74	SB74	2.0	2.8	76.6	8.60
76	SB76	2.0	2.8	78.6	8.89
78	SB78	2.0	2.8	80.6	9.05
79	SB79	2.0	2.8	81.6	9.07
80	SB80	2.0	2.8	82.6	9.22
81	SB81	2.0	2.8	83.6	9.31
82	SB82	2.0	2.8	84.6	9.45
83	SB83	2.0	2.8	85.6	9.63
85	SB85	2.0	2.8	87.6	9.81
86	SB86	2.0	2.8	88.6	9.91
88	SB88	2.5	3.4	91.0	15.40
90	SB90	2.5	3.4	93.0	15.60
92	SB92	2.5	3.4	95.0	16.60
93	SB93	2.5	3.4	96.0	16.80
95	SB95	2.5	3.4	98.0	16.90
97	SB97	2.5	3.4	100.0	17.10
98	SB98	2.5	3.4	101.0	17.5
100	SB100	2.5	3.4	103.0	17.9
102	SB102	2.5	3.4	105.3	18.4
103	SB103	2.5	3.4	106.3	18.5
105	SB105	2.5	3.4	108.3	18.7
107	SB107	2.5	3.4	110.3	19.1
108	SB108	2.5	3.4	111.3	19.3
110	SB110	2.5	3.4	113.4	19.8
112	SB112	2.5	3.4	115.4	20.3
113	SB113	2.5	3.4	116.4	20.5



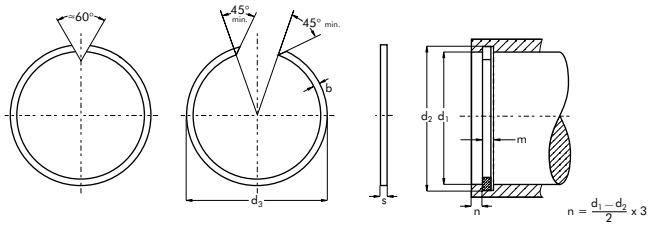
M2300 / SB

				DATA	
Part Number	d_2	Tolerance	m min.	FN [kN]	FR [kN]
SB50	51.2	+0.19	1.6	15.80	17.20
SB52	53.5		1.6	20.65	16.30
SB53	54.5		1.6	21.05	16.10
SB55	56.5		1.6	21.80	15.70
SB57	58.5		1.6	22.60	15.30
SB58	59.5		1.6	23.00	15.00
SB60	61.5		1.6	23.80	14.60
SB62	63.5		1.6	24.60	14.20
SB63	64.5		1.6	25.00	13.70
SB65	66.5		1.6	25.70	13.60
SB68	69.5		1.6	26.90	12.90
SB70	71.5		1.6	27.70	12.80
SB72	73.8		2.2	34.20	35.70
SB73	74.8		2.2	34.70	35.30
SB74	75.8		2.2	35.30	34.80
SB76	77.8		2.2	36.20	33.80
SB78	79.8		2.2	37.10	32.60
SB79	80.8	+0.22	2.2	37.60	32.00
SB80	81.8		2.2	38.00	31.40
SB81	82.8		2.2	38.60	31.30
SB82	83.8		2.2	39.00	30.70
SB83	84.8		2.2	39.50	30.10
SB85	86.8		2.2	40.40	29.60
SB86	87.8		2.2	40.90	29.00
SB88	90.0		2.7	46.50	65.80
SB90	92.0		2.7	47.60	63.50
SB92	94.0		2.7	48.60	62.00
SB93	95.0		2.7	49.20	61.80
SB95	97.0		2.7	50.20	59.30
SB97	99.0		2.7	51.30	58.20
SB98	100.0		2.7	51.8	56.6
SB100	102.0		2.7	52.8	55.5
SB102	104.3		2.7	62.0	53.6
SB103	105.3		2.7	62.6	53.2
SB105	107.3		2.7	63.8	51.8
SB107	109.3		2.7	65.0	50.7
SB108	110.3		2.7	65.6	50.5
SB110	112.3		2.7	66.8	49.0
SB112	114.3		2.7	68.0	47.0
SB113	115.3		2.7	68.6	46.5

Snap rings for bores

M2300 / SB

d_1	Part Number	s (-0.1)	b (-0.1)	d_3 min.	Weight [kg / 1000]
115	SB115	2.5	3.4	118.4	20.6
117	SB117	2.5	3.4	120.4	20.8
118	SB118	2.5	3.4	121.4	21.1
120	SB120	2.5	3.4	123.5	21.4
123	SB123	2.5	3.4	126.5	22.0
125	SB125	2.5	3.4	128.5	22.5
127	SB127	2.5	3.4	130.5	23.0
130	SB130	2.5	3.4	133.6	23.4
133	SB133	2.5	3.4	136.6	24.4
135	SB135	2.5	3.4	138.6	25.0
137	SB137	2.5	3.4	140.6	25.3
140	SB140	2.5	4.0	144.0	29.3
143	SB143	2.5	4.0	147.0	30.1
150	SB150	2.5	4.0	154.1	31.9
153	SB153	2.5	4.0	157.1	32.6
160	SB160	2.5	4.0	164.2	34.4
163	SB163	2.5	4.0	167.2	34.6
165	SB165	2.5	4.0	169.2	34.9
170	SB170	2.5	4.0	174.3	36.2
173	SB173	2.5	4.0	177.3	37.1
175	SB175	2.5	4.0	179.3	37.3
180	SB180	2.5	4.0	184.5	38.3
183	SB183	2.5	4.0	187.5	41.0
190	SB190	3.0	5.0	194.9	61.3
195	SB195	3.0	5.0	199.9	61.6
200	SB200	3.0	5.0	205.0	64.5
205	SB205	3.0	5.0	210.0	66.4
210	SB210	3.0	5.0	215.1	68.8
215	SB215	3.0	5.0	220.1	69.5
220	SB220	3.0	5.0	225.2	72.4



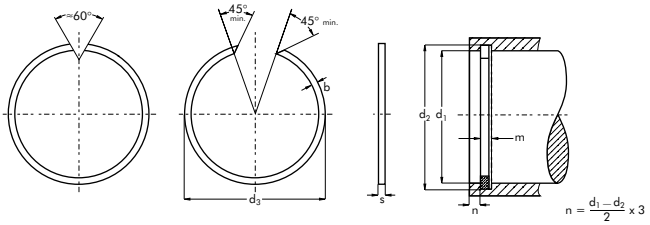
M2300 / SB

				DATA	
Part Number	d_2	Tolerance	m min.	FN [kN]	FR [kN]
SB115	117.3	+0.22	2.7	69.4	45.5
SB117	119.3		2.7	71.0	44.6
SB118	120.3	+0.25	2.7	71.7	44.2
SB120	122.3		2.7	72.8	43.3
SB123	125.3		2.7	74.7	41.2
SB125	127.3		2.7	75.9	40.2
SB127	129.3		2.7	77.0	39.8
SB130	132.3		2.7	78.9	38.2
SB133	135.3		2.7	80.7	36.8
SB135	137.3		2.7	81.9	36.6
SB137	139.3		2.7	83.0	35.6
SB140	142.6		2.7	96.1	40.2
SB143	145.6		2.7	98.1	38.6
SB150	152.6		2.7	102.0	36.2
SB153	155.6		2.7	104.0	35.6
SB160	162.6		2.7	108.0	34.6
SB163	165.6		2.7	111.0	33.5
SB165	167.6		2.7	113.0	32.8
SB170	172.6		2.7	116.0	32.0
SB173	175.6		2.7	118.0	32.0
SB175	177.6		2.7	119.0	31.4
SB180	182.6	+0.29	2.7	123.0	30.8
SB183	185.6		2.7	125.0	30.0
SB190	193.0		3.2	150.0	62.8
SB195	198.0		3.2	154.0	61.5
SB200	203.0		3.2	158.0	59.0
SB205	208.0		3.2	162.0	57.8
SB210	213.0		3.2	166.0	56.8
SB215	218.0		3.2	169.0	55.5
SB220	223.0		3.2	173.0	54.4

Snap rings for bores

M2300 / SB

d_1	Part Number	s (-0.1)	b (-0.1)	d_3 min.	Weight [kg / 1000]
225	SB225	3.0	5.0	230.2	72.9
230	SB230	3.0	5.0	235.3	75.2
240	SB240	3.0	5.0	245.4	80.9
250	SB250	3.0	5.0	255.5	84.2
260	SB260	4.0	7.5	267.6	165.0
270	SB270	4.0	7.5	277.7	174.0
280	SB280	4.0	7.5	287.8	184.0
290	SB290	4.0	7.5	297.9	190.0
300	SB300	4.0	7.5	307.9	196.0
310	SB310	4.0	7.5	318.0	200.0
320	SB320	4.0	7.5	328.1	203.0
325	SB325	4.0	7.5	333.1	206.0
330	SB330	4.0	7.5	338.2	209.0
340	SB340	4.0	7.5	348.3	219.0
350	SB350	4.0	7.5	358.4	229.0



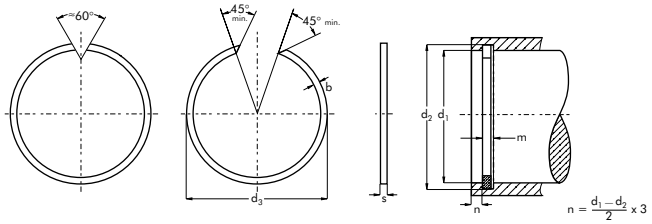
M2300 / SB

				DATA	
Part Number	d_2	Tolerance	m min.	FN [kN]	FR [kN]
SB225	228.0		3.2	177.0	53.3
SB230	233.0		3.2	181.0	52.0
SB240	243.0		3.2	189.0	49.6
SB250	253.0	+0.32	3.2	197.0	48.5
SB260	265.0		4.2	343.0	162.0
SB270	275.0		4.2	356.0	157.0
SB280	285.0		4.2	369.0	152.0
SB290	295.0		4.2	382.0	144.0
SB300	305.0		4.2	395.0	140.0
SB310	315.0		4.2	408.0	136.0
SB320	325.0	+0.36	4.2	422.0	132.0
SB325	330.0		4.2	428.0	129.0
SB330	335.0		4.2	435.0	126.0
SB340	345.0		4.2	448.0	123.0
SB350	355.0		4.2	452.0	121.0

Snap rings for bores

M2300 / SB

d_1	Part Number	s (-0.1)	b (-0.1)	d_3 min.	Weight [kg / 1000]
355	SB355	4.0	7.5	363.4	231.0
360	SB360	4.0	7.5	368.5	233.0
370	SB370	4.0	7.5	378.5	236.0
375	SB375	4.0	7.5	383.5	240.0
380	SB380	4.0	7.5	388.6	242.0
390	SB390	4.0	7.5	398.7	253.0
395	SB395	4.0	7.5	403.7	257.0
400	SB400	4.0	7.5	408.9	260.0
410	SB410	4.0	7.5	419.0	266.0
415	SB415	4.0	7.5	424.0	273.0
420	SB420	4.0	7.5	429.1	277.0
430	SB430	4.0	7.5	439.2	285.0
440	SB440	4.0	7.5	449.3	294.0



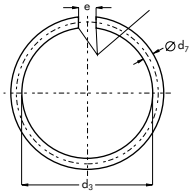
M2300 / SB

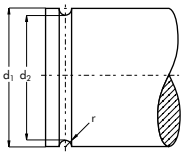
				DATA	
Part Number	d_2	Tolerance	m min.	FN [kN]	FR [kN]
SB355	360.0	+0.36	4.2	467.0	121.0
SB360	365.0		4.2	487.0	119.0
SB370	375.0		4.2	493.0	116.0
SB375	380.0		4.2	500.0	112.0
SB380	385.0		4.2	513.0	111.0
SB390	395.0		4.2	520.0	110.0
SB395	400.0		4.2	526.0	109.0
SB400	405.0	+0.40	4.2	529.0	106.0
SB410	415.0		4.2	546.0	105.0
SB415	420.0		4.2	552.0	104.0
SB420	425.0		4.2	553.0	101.0
SB430	435.0		4.2	565.0	100.0
SB440	445.0		4.2	578.0	98.0

Round wire rings for shafts

DIN 7993 A / DIN 9925 / RW

d_1	Part Number	d_7	d_3	Tolerance	e ≈	Weight [kg / 1000]
4	RW4	0.8	3.1	- 0.2	1	0.044
5	RW5	0.8	4.1		1	0.057
6	RW6	0.8	5.1		1	0.069
7	RW7	0.8	6.1	- 0.3	2	0.077
8	RW8	0.8	7.1		2	0.090
10	RW10	0.8	9.1		2	0.115
12	RW12	1.0	10.8	- 0.4	3	0.210
14	RW14	1.0	12.8		3	0.250
16	RW16	1.6	14.2		3	0.740
18	RW18	1.6	16.2		3	0.830
20	RW20	2.0	17.7	- 0.5	3	1.450
22	RW22	2.0	19.7		3	1.600
24	RW24	2.0	21.7		3	1.780
25	RW25	2.0	22.7		3	1.840
26	RW26	2.0	23.7		3	1.910
28	RW28	2.0	25.7		3	2.070
30	RW30	2.0	27.7		3	2.220
32	RW32	2.5	29.1	- 0.6	4	3.670
35	RW35	2.5	32.1		4	3.980
38	RW38	2.5	35.1		4	4.400
40	RW40	2.5	37.1		4	4.64
42	RW42	2.5	39.0	- 0.8	4	4.87
45	RW45	2.5	42.0		4	5.23
48	RW48	2.5	45.0		4	5.60
50	RW50	2.5	47.0		4	5.83
55	RW55	3.2	51.1		4	10.51
60	RW60	3.2	56.1		4	11.50
65	RW65	3.2	61.1		4	12.49
70	RW70	3.2	66.0	- 1.0	5	13.40
75	RW75	3.2	71.0		5	14.39
80	RW80	3.2	76.0		5	15.38
85	RW85	3.2	81.0		5	16.38
90	RW90	3.2	86.0		5	17.37
95	RW95	3.2	91.0		5	18.36
100	RW100	3.2	95.8	- 1.2	5	19.31
105	RW105	3.2	100.8		5	20.30
110	RW110	3.2	105.8		5	21.29
115	RW115	3.2	110.8		5	22.29
120	RW120	3.2	115.8		5	23.28
125	RW125	3.2	120.8		5	24.27





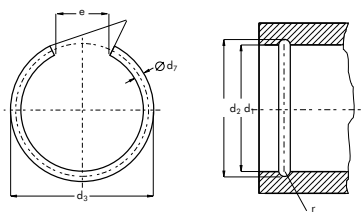
DIN 7993 A / DIN 9925 / RW

Part Number	d_2	Tolerance	r	$n_{det.}$ x 1000 [rpm]
RW4	3.2	±0.05	0.5	175
RW5	4.2		0.5	112
RW6	5.2		0.5	77
RW7	6.2		0.5	57
RW8	7.2		0.5	44
RW10	9.2		0.5	28
RW12	11.0		0.6	24
RW14	13.0		0.6	18
RW16	14.4		0.9	22
RW18	16.4		0.9	17
RW20	18.0	±0.10	1.1	18
RW22	20.0		1.1	15
RW24	22.0		1.1	12
RW25	23.0		1.1	11
RW26	24.0		1.1	10
RW28	26.0		1.1	9
RW30	28.0		1.1	8
RW32	29.5		1.4	9
RW35	32.5		1.4	7
RW38	35.5		1.4	6
RW40	37.5		1.4	6
RW42	39.5		1.4	5
RW45	42.5		1.4	4
RW48	45.5		1.4	4
RW50	47.5		1.4	4
RW55	51.8	±0.15	1.8	4
RW60	56.8		1.8	3
RW65	61.8		1.8	3
RW70	66.8		1.8	2
RW75	71.8		1.8	2
RW80	76.8		1.8	2
RW85	81.8		1.8	2
RW90	86.8		1.8	1
RW95	91.8		1.8	1
RW100	96.8		1.8	1
RW105	101.8		1.8	1
RW110	106.8		1.8	1
RW115	111.8		1.8	1
RW120	116.8		1.8	1
RW125	121.8		1.8	1

Round wire rings for bores

DIN 7993 B / DIN 9926 / RB

d_1	Part Number	d_7	d_3	Tolerance	e ≈	Weight [kg / 1000]
7	RB7	0.8	7.9	+0.3	4	0.071
8	RB8	0.8	8.9		4	0.083
10	RB10	0.8	10.9		4	0.108
12	RB12	1.0	13.2	+0.4	6	0.196
14	RB14	1.0	15.2		6	0.234
16	RB16	1.6	17.8		8	0.706
18	RB18	1.6	19.8		8	0.804
20	RB20	2.0	22.3	+0.5	10	1.320
22	RB22	2.0	24.3		10	1.470
24	RB24	2.0	26.3		10	1.630
25	RB25	2.0	27.3		10	1.700
26	RB26	2.0	28.3		10	1.790
28	RB28	2.0	30.3		10	1.940
30	RB30	2.0	32.3		10	2.100
32	RB32	2.5	34.9	+0.6	12	3.470
35	RB35	2.5	37.9		12	3.850
38	RB38	2.5	40.9		12	4.200
40	RB40	2.5	42.9		12	4.430
42	RB42	2.5	45.0	+0.8	16	4.540
45	RB45	2.5	48.8		16	4.89
48	RB48	2.5	51.0		16	5.24
50	RB50	2.5	53.0		16	5.51
55	RB55	3.2	58.9		20	9.77
60	RB60	3.2	63.9		20	10.76
65	RB65	3.2	68.9		20	11.75
70	RB70	3.2	74.0	+1.0	25	12.44
75	RB75	3.2	79.0		25	13.43
80	RB80	3.2	84.0		25	14.42
85	RB85	3.2	89.0		25	15.41
90	RB90	3.2	94.0		25	16.40
95	RB95	3.2	99.0	+1.2	25	17.39
100	RB100	3.2	104.2		32	17.98
105	RB105	3.2	109.2		32	18.98
110	RB110	3.2	114.2		32	19.97
115	RB115	3.2	119.2		32	20.96
120	RB120	3.2	124.2		32	21.95
125	RB125	3.2	129.2		32	22.94



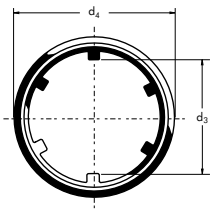
DIN 7993 B / DIN 9926 / RB

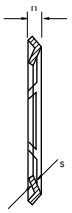
Part Number	d_2	Tolerance	r
RB7	7.8	±0.05	0.5
RB8	8.8		0.5
RB10	10.8		0.5
RB12	13.0		0.6
RB14	15.0		0.6
RB16	17.6		0.9
RB18	19.6		0.9
RB20	22.0	±0.10	1.1
RB22	24.0		1.1
RB24	26.0		1.1
RB25	27.0		1.1
RB26	28.0		1.1
RB28	30.0		1.1
RB30	32.0		1.1
RB32	34.5		1.4
RB35	37.5		1.4
RB38	40.5		1.4
RB40	42.5		1.4
RB42	44.5		1.4
RB45	47.5		1.4
RB48	50.5		1.4
RB50	52.5		1.4
RB55	58.2	±0.15	1.8
RB60	63.2		1.8
RB65	68.2		1.8
RB70	73.2		1.8
RB75	78.2		1.8
RB80	83.2		1.8
RB85	88.2		1.8
RB90	93.2		1.8
RB95	98.2		1.8
RB100	103.2		1.8
RB105	108.2		1.8
RB110	113.2		1.8
RB115	118.2		1.8
RB120	123.2		1.8
RB125	128.2		1.8

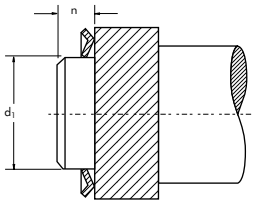
Push-On fix for shafts

M1455 / ZA

d_1	Part Number	Tolerance	d_3	d_4	s	Number of teeth	n min.	h	Tolerance
1.5	ZA1.5	±0.10	1.40	6.0	0.25	3	1.5	0.6	±0.15
2.0	ZA2		1.85	6.5	0.25	3	1.5	0.6	
3.0	ZA3		2.80	8.0	0.25	4	1.5	0.8	
3.5	ZA3.5		3.30	8.2	0.25	4	2.0	0.9	
4.0	ZA4		3.80	9.0	0.25	4	2.0	0.8	
5.0	ZA5		4.80	10.0	0.25	4	2.0	0.8	
6.0	ZA6	±0.12	5.80	11.0	0.25	4	2.5	0.8	
7.0	ZA7		6.80	12.0	0.25	4	2.5	0.8	
8.0	ZA8		7.75	13.0	0.25	4	2.5	0.8	
9.0	ZA9		8.75	14.0	0.30	6	2.5	0.9	
10.0	ZA10		9.75	16.0	0.30	6	3.0	1.1	
12.0	ZA12		11.70	18.0	0.30	6	3.0	1.1	
14.0	ZA14	±0.15	13.70	20.5	0.30	6	3.0	1.2	
15.0	ZA15		14.60	23.0	0.50	8	3.0	1.6	
16.0	ZA16		15.60	24.5	0.40	8	3.0	1.4	
17.0	ZA17		16.60	26.0	0.50	8	3.5	1.5	
18.0	ZA18		17.60	27.0	0.40	8	3.5	1.4	
19.0	ZA19		18.60	28.0	0.50	8	3.5	1.5	
20.0	ZA20		19.50	29.0	0.50	8	3.5	1.6	
22.0	ZA22		21.50	31.0	0.50	8	3.5	1.6	
23.0	ZA23		22.50	31.5	0.50	8	4.0	1.5	
25.0	ZA25		24.50	34.0	0.50	8	4.0	1.6	
28.0	ZA28		27.50	37.0	0.50	8	4.0	1.8	
30.0	ZA30		29.50	40.0	0.50	8	4.0	1.8	
35.0	ZA35		34.50	46.0	0.50	8	4.0	1.8	
45.0	ZA45		44.50	60.0	0.50	8	4.0	2.5	







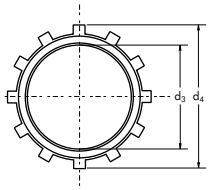
M1455 / ZA

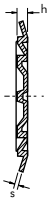
	DATA	
Part Number	Weight [kg / 1000]	FRg [N]
ZA1.5	0.040	100
ZA2	0.042	150
ZA3	0.066	200
ZA3.5	0.104	210
ZA4	0.078	220
ZA5	0.082	230
ZA6	0.094	240
ZA7	0.110	250
ZA8	0.112	250
ZA9	0.208	300
ZA10	0.232	320
ZA12	0.255	350
ZA14	0.310	400
ZA15	0.750	600
ZA16	0.710	700
ZA17	0.950	800
ZA18	0.810	850
ZA19	0.950	900
ZA20	1.090	950
ZA22	1.150	1000
ZA23	1.220	1050
ZA25	1.490	1100
ZA28	1.550	1200
ZA30	1.630	1300
ZA35	2.100	1400
ZA45	2.700	1500

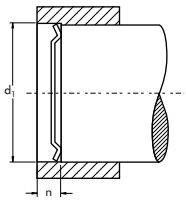
Push-In fix for bores

M1355 / ZJ

d_1	Part Number	Tolerance	d_3	d_4	s	Number of teeth	n min.	h
8.0	ZJ8	+0.00	4.0	8.25	0.25	6	2.0	0.7
10.0	ZJ10	- 0.09	5.0	10.20	0.25	6	2.0	0.8
12.0	ZJ12	+0.00	6.0	12.25	0.25	6	2.5	1.0
14.0	ZJ14	- 0.11	8.0	14.25	0.30	6	2.5	1.1
15.0	ZJ15		9.0	15.25	0.30	6	2.5	1.1
16.0	ZJ16		10.0	16.30	0.30	6	2.5	1.0
17.0	ZJ17		11.0	17.30	0.30	8	3.0	1.0
18.0	ZJ18		10.5	18.30	0.40	8	3.0	1.3
19.0	ZJ19	+0.00	11.0	20.20	0.50	8	3.5	1.2
20.0	ZJ20	- 0.13	11.0	20.35	0.40	8	3.5	1.2
22.0	ZJ22		13.0	22.35	0.50	8	3.5	1.6
25.0	ZJ25		16.0	25.35	0.50	10	3.5	1.5
26.0	ZJ26		17.0	26.40	0.50	10	3.5	1.5
28.0	ZJ28		19.0	28.40	0.50	10	3.5	1.4
30.0	ZJ30		21.0	30.40	0.50	8	4.0	1.5
32.0	ZJ32	+0.00	22.5	32.40	0.50	12	4.0	1.5
35.0	ZJ35	- 0.16	25.0	35.40	0.50	12	4.0	1.6
40.0	ZJ40		30.0	40.40	0.50	12	4.0	1.6
45.0	ZJ45		35.0	45.40	0.50	12	4.0	1.6
46.0	ZJ46		36.0	46.50	0.50	12	4.0	1.6
50.0	ZJ50		39.0	50.50	0.50	12	4.0	1.7







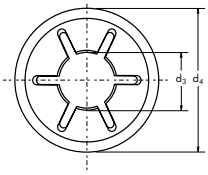
M1355 / ZJ

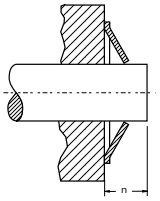
	DATA	
Part Number	Weight [kg / 1000]	FRg [N]
ZJ8	0.048	300
ZJ10	0.068	350
ZJ12	0.112	450
ZJ14	0.172	500
ZJ15	0.192	550
ZJ16	0.206	600
ZJ17	0.236	650
ZJ18	0.380	700
ZJ19	0.604	800
ZJ20	0.512	800
ZJ22	0.680	800
ZJ25	0.810	800
ZJ26	0.856	850
ZJ28	0.922	850
ZJ30	1.010	900
ZJ32	1.210	900
ZJ35	1.320	900
ZJ40	1.720	950
ZJ45	1.830	950
ZJ46	1.870	1000
ZJ50	2.160	1000

Heavy duty push-on fix for shafts

KS

d_1	Part Number	Tolerance	d_3	d_4	s	Number of teeth	n min.	h
1.5	KS1.5	+0.000	1.30	6.00	0.25	3	2.5	1.2
2.0	KS2	- 0.025	1.80	7.00	0.30	3	2.5	1.3
2.5	KS2.5		2.30	8.25	0.30	3	2.5	1.5
3.0	KS3		2.80	10.00	0.40	3	3.0	2.0
3.5	KS3.5	+0.000	3.25	11.50	0.40	3	3.0	2.0
4.0	KS4	- 0.030	3.75	13.00	0.50	4	3.5	2.4
5.0	KS5		4.75	15.00	0.50	4	3.5	2.7
6.0	KS6		5.75	16.50	0.60	6	4.0	2.6
7.0	KS7	+0.000	6.75	18.00	0.60	6	4.0	2.9
8.0	KS8	- 0.036	7.75	19.50	0.70	6	4.0	2.8
9.0	KS9		8.75	21.00	0.70	6	4.0	3.0
10.0	KS10		9.75	22.00	0.80	6	4.0	3.0

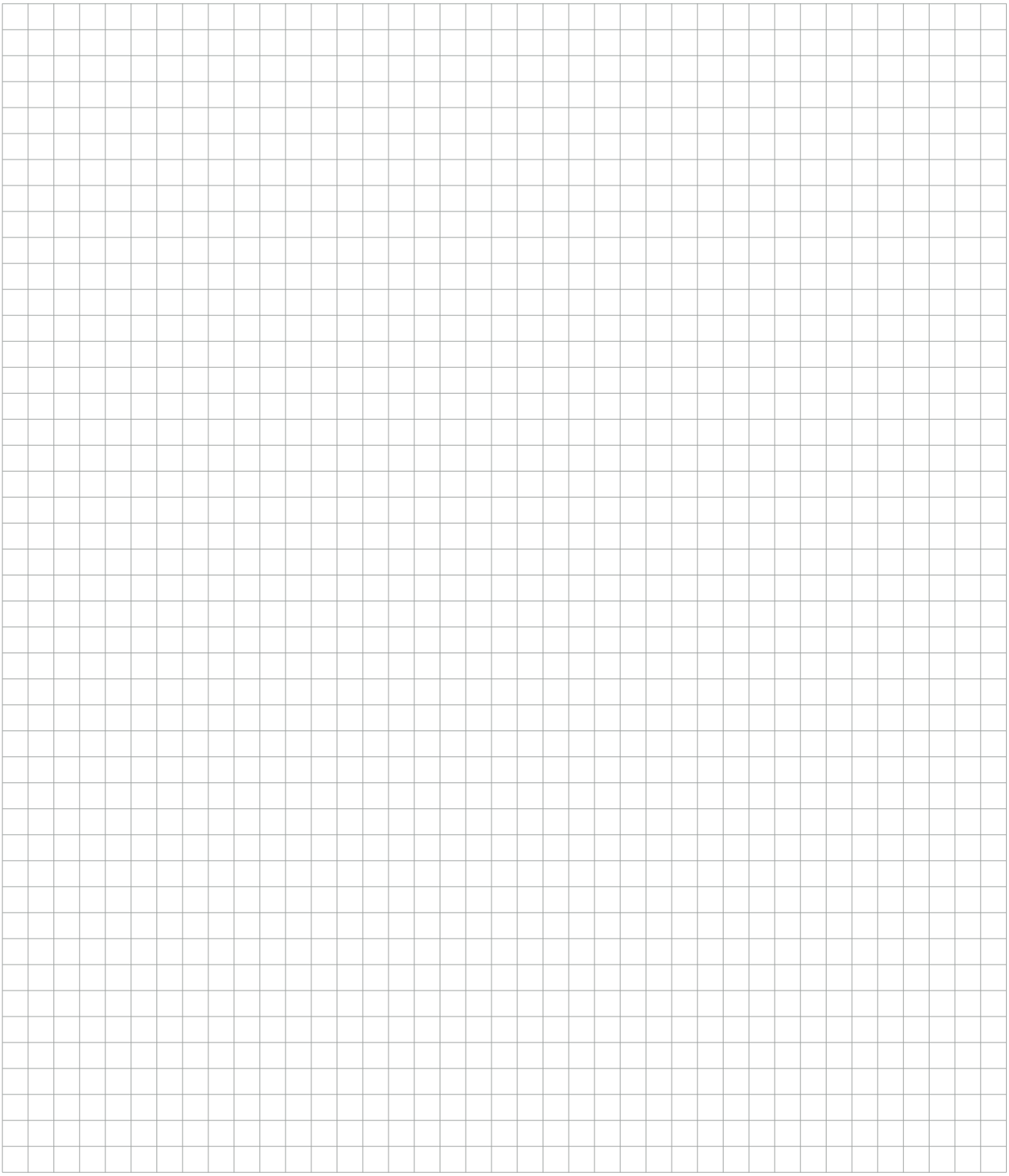




KS

	DATA	
Part Number	Weight [kg / 1000]	H [N]
KS1.5	0.10	200
KS2	0.13	400
KS2.5	0.15	700
KS3	0.20	1200
KS3.5	0.25	1200
KS4	0.50	1300
KS5	0.75	1500
KS6	1.15	1800
KS7	1.25	2000
KS8	1.40	3000
KS9	1.50	3500
KS10	1.65	4000

Notes



Notes

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