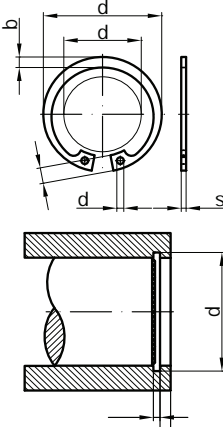
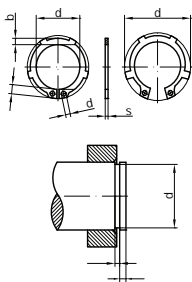




Dimensions for washers and rings

Retaining/lock washers and rings

DIN	Dimensions	118 *	120	122 *	125	128 *	130	132 *	135	138 *	140
472 normal type  nominal size = bore Ø * intermediate sizes not included in the standard	s	4	4	4	4	4	4	4	4	4	4
	d ₃	125	127	129	132	135	137	139	142	145	147
	a	10.7	11	11	11	11	11	11	11.2	11.2	11.2
	b	9.6	9.7	9.8	10	10.2	10.2	10.3	10.5	10.6	10.7
	d ₅	3.5	3.5	4	4	4	4	4	4	4	4
	d ₂	122	124	126	129	132	134	136	139	142	144
	m	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15
	n	6	6	6	6	6	6	6	6	6	6
	d ₄	-	96.9	-	101.9	-	106.9	-	111.5	-	116.5
	Dimensions	142 *	145	148 *	150	152 *	155	160	165	168 *	170
	s	4	4	4	4	4	4	4	4	4	4
	d ₃	149	152	155	158	161	164	169	174.5	177.5	179.5
	a	11.3	11.4	11.8	12	12	12	13	13	13.5	13.5
	b	10.8	10.9	11.1	11.2	11.3	11.4	11.6	11.8	12.1	12.2
	d ₅	4	4	4	4	4	4	4	4	4	4
	d ₂	146	149	152	155	157	160	165	170	173	175
	m	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15
	n	6	6	6	7.5	7.5	7.5	7.5	7.5	7.5	7.5
d ₄	-	121	-	124.8	-	129.8	132.7	137.7	-	141.6	
Dimensions	175	180	185	190	195	200	205 *	210	215 *	220	
s	4	4	4	4	4	4	5	5	5	5	
d ₃	184.5	189.5	194.5	199.5	204.5	209.5	217	222	227	232	
a	13.5	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	
b	12.7	13.2	13.7	13.8	13.8	14	14	14	14	14	
d ₅	4	4	4	4	4	4	4	4	4	4	
d ₂	180	185	190	195	200	205	211	216	221	226	
m	4.15	4.15	4.15	4.15	4.15	4.15	5.15	5.15	5.15	5.15	
n	7.5	7.5	7.5	7.5	7.5	7.5	9	9	9	9	
d ₄	146.6	150.2	155.2	160.2	165.2	170.2	-	180.2	-	190.2	
Dimensions	225 *	230	235 *	240	245 *	250	255 *	260	265 *	270	
s	5	5	5	5	5	5	5	5	5	5	
d ₃	237	242	247	252	257	262	270	275	280	285	
a	14.2	14.2	14.2	14.2	14.2	14.2	16.2	16.2	16.2	16.2	
b	14	14	14	14	14	14	16	16	16	16	
d ₅	4	4	4	4	4	4	5	5	5	5	
d ₂	231	236	241	246	251	256	263	268	273	278	
m	5.15	5.15	5.15	5.15	5.15	5.15	5.15	5.15	5.15	5.15	
n	9	9	9	9	9	9	12	12	12	12	
d ₄	-	200.2	-	210.2	-	220.2	-	226	-	236	
Dimensions	275 *	280	285 *	290	295 *	300	310 *	320 *	340 *	360 *	
s	5	5	5	5	5	5	6	6	6	6	
d ₃	290	295	300	305	310	315	327	337	357	377	
a	16.2	16.2	16.2	16.2	16.2	16.2	-	-	-	-	
b	16	16	16	16	16	16	20	20	20	20	
d ₅	5	5	5	5	5	5	6	6	6	6	
d ₂	283	288	293	298	303	308	320	330	350	370	
m	5.15	5.15	5.15	5.15	5.15	5.15	3.2	6.2	6.20	6.2	
n	12	12	12	12	12	12	15	15	15	15	
d ₄	-	246	-	256	-	266	-	-	-	-	

DIN	Dimensions	20	25	30	35	40	45	50
983  nominal size = for shafts Ø	s	1.2	1.2	1.5	1.5	1.75	1.75	2
	d ₃	18.5	23.2	27.9	32.2	36.5	41.5	45.8
	a	3.8	4.3	4.7	5.2	7.2	7.2	8.2
	b	2.6	3	3.5	3.9	4.4	4.7	5.1
	d ₅	2	2	2	2.5	2.5	2.5	2.5
	d ₂	19	23.9	28.6	33	37.5	42.5	47
	m	1.3	1.3	1.6	1.6	1.85	1.85	2.15
	n	1.5	1.7	2.1	3	3.8	3.8	4.5
	d ₄	28	34	39.9	45.9	55.1	60.1	67.2