

## 5. Computation of the Rotary Stroke Bearing

### Ball Cage Type N 501: Specific rated load $C_{10}$ and rigidity $R_{10}$

Nom. size $d_w$ [mm]	$C_{10}$ [N] $R_{10}$ [ $\mu\text{m}/\text{N}$ ]	Preloading $v$ [ $\mu\text{m}$ ]														
		1	2	3	4	5	6	7	8	9	10	12	14	16	18	20
4	$C_{10}$	12	25	42												
	$R_{10}$	0.0075	0.055	0.042												
6	$C_{10}$	-	25	45	70											
	$R_{10}$	-	0.042	0.035	0.030											
8	$C_{10}$	-	-	50	75	101										
	$R_{10}$	-	-	0.033	0.03	0.027										
10	$C_{10}$	-	-	-	78	110	144									
	$R_{10}$	-	-	-	0.027	0.025	0.023									
12	$C_{10}$	-	-	-	92	130	170									
	$R_{10}$	-	-	-	0.023	0.021	0.019									
14-16	$C_{10}$	-	-	-	-	141	185	233	285							
	$R_{10}$	-	-	-	-	0.02	0.018	0.017	0.015							
18-20	$C_{10}$	-	-	-	-	163	215	270	331							
	$R_{10}$	-	-	-	-	0.017	0.015	0.014	0.013							
24-25	$C_{10}$	-	-	-	-	-	276	350	424	500						
	$R_{10}$	-	-	-	-	-	0.012	0.011	0.011	0.01						
30-32	$C_{10}$	-	-	-	-	-	-	380	462	560	650					
	$R_{10}$	-	-	-	-	-	-	0.01	0.01	0.009	0.009					
40-42	$C_{10}$	-	-	-	-	-	-	410	495	590	690	910				
	$R_{10}$	-	-	-	-	-	-	0.009	0.009	0.009	0.008	0.007				
50-52	$C_{10}$	-	-	-	-	-	-	-	552	658	770	1030				
	$R_{10}$	-	-	-	-	-	-	-	0.008	0.008	0.007	0.006				
63	$C_{10}$	-	-	-	-	-	-	-	-	670	780	1050	1370			
	$R_{10}$	-	-	-	-	-	-	-	-	0.008	0.007	0.006	0.006			
80	$C_{10}$	-	-	-	-	-	-	-	-	-	846	1110	1430	1720		
	$R_{10}$	-	-	-	-	-	-	-	-	-	0.007	0.006	0.006	0.005		
100	$C_{10}$	-	-	-	-	-	-	-	-	-	-	1230	1560	1880	2280	2660
	$R_{10}$	-	-	-	-	-	-	-	-	-	-	0.005	0.005	0.005	0.004	0.004

The values  $C_{10}$  and  $R_{10}$  are specified for the permitted preloading values.

Fig. 27

### Ball Cage Type N 500: Specific rated load $C_{10}$ and rigidity $R_{10}$

Nom. size $d_w$ [mm]	$C_{10}$ [N] $R_{10}$ [ $\mu\text{m}/\text{N}$ ]	Preloading $v$ [ $\mu\text{m}$ ]						
		5	6	7	8	9	10	12
18-20	$C_{10}$	188	248	312	382			
	$R_{10}$	0.014	0.013	0.012	0.011			
24-25	$C_{10}$	-	300	370	460	550		
	$R_{10}$	-	0.01	0.009	0.009	0.009		
30-32	$C_{10}$	-	-	380	470	560	660	
	$R_{10}$	-	-	0.01	0.009	0.009	0.008	
38-42	$C_{10}$	-	-	443	540	645	750	1000
	$R_{10}$	-	-	0.009	0.008	0.008	0.007	0.007

The values  $C_{10}$  and  $R_{10}$  are specified for the permitted preloading values.

Fig. 28