

Combined Bearing/Freewheel

CSK..P, CSK..PP CSK..P-2RS



TYPE

CSK..P

CSK..PP



Types CSK..P and CSK..PP are sprag type freewheels integrated into 62.. series ball bearings (except size 40). They are bearing supported, delivered grease lubricated and protected against dust of more than 0,3 mm.

The use of additional “nylos” type seals is recommended especially when the working temperature exceeds 50°C. Oil bath lubrication is also possible.

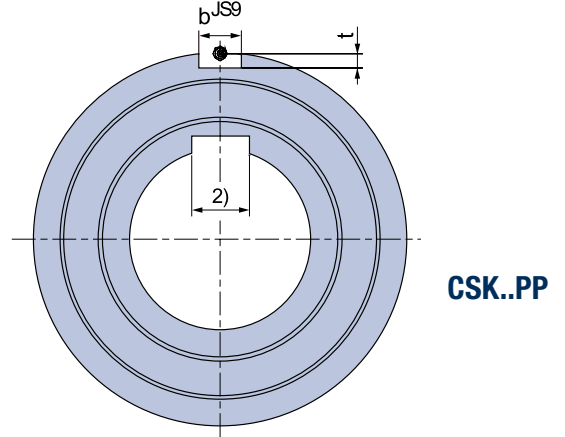
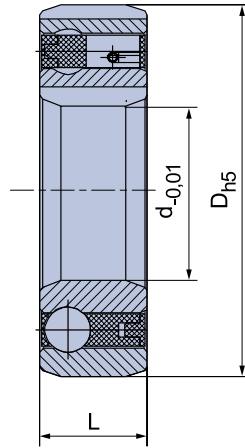
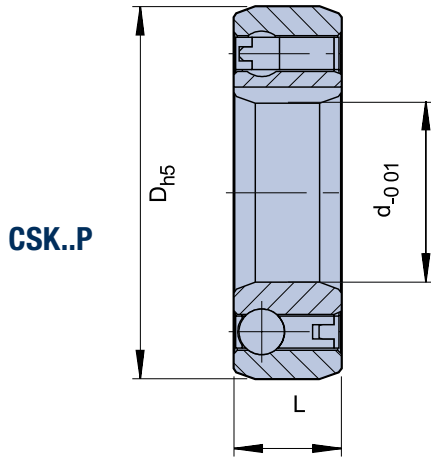
In addition to the basic CSK model, type CSK..P

features a keyway on the inner race. For this reason it can be keyed to a shaft to k6 tolerance. The outer race must still be pressed into a rigid steel housing to N6 tolerance.

CSK..PP features a keyway on both the inner and outer race. The recommended mounting tolerances are h6 on the shaft and H6 in a rigid housing. Please contact us when either the ambient or the operating temperature is not within the range +5°C to +60°C.

Combined Bearing/Freewheel

CSK..P, CSK..PP, CSK..P-2RS



Type	Size	Bearing series							Bearing loads		Weight	Drag torque
			$T_{KN}^{1)}$ [Nm]	n_{max} [min ⁻¹]	D [mm]	L [mm]	b [mm]	t [mm]	C [kN]	C ₀ [kN]		
CSK..P ²⁾	12	6201	9,3	10000	32	10			6,1	2,77	0,04	0,7
	15	6202	17	8400	35	11			7,4	3,42	0,06	0,9
	17	6203	30	7350	40	12			7,9	3,8	0,070	1,1
	20	6204	50	6000	47	14			9,4	4,46	0,110	1,3
	25	6205	85	5200	52	15			10,7	5,46	0,140	2,0
	30	6206	138	4200	62	16			11,7	6,45	0,210	4,4
	35	6207	175	3600	72	17			12,6	7,28	0,300	5,8
	40	–	325	3000	80	22			15,54	12,25	0,5	7,0
CSK..PP ²⁾	15	6202	17	8400	35	11	2	0,6	7,4	3,42	0,06	0,9
	17	6203	30	7350	40	12	2	1,0	7,9	3,8	0,070	1,1
	20	6204	50	6000	47	14	3	1,5	9,4	4,46	0,110	1,3
	25	6205	85	5200	52	15	6	2,0	10,7	5,46	0,140	2,0
	30	6206	138	4200	62	16	6	2,0	11,7	6,45	0,210	4,4
	35	6207	175	3600	72	17	8	2,5	12,6	7,28	0,300	5,8
	40	–	325	3000	80	22	10	3,0	15,54	12,25	0,5	7,0
CSK..P-2RS ²⁾	12	–	9,3	10000	32	14			6,1	2,77	0,05	3
	15	–	17	8400	35	16			7,4	3,42	0,07	4
	17	–	30	7350	40	17			7,9	3,8	0,09	5,6
	20	–	50	6000	47	19			9,4	4,46	0,145	6,0
	25	–	85	5200	52	20			10,7	5,46	0,175	6,0
	30	–	138	4200	62	21			11,7	6,45	0,270	7,5
	35	–	175	3600	72	22			12,6	7,28	0,4	8,2
	40	–	325	3000	80	27			15,54	12,25	0,6	10

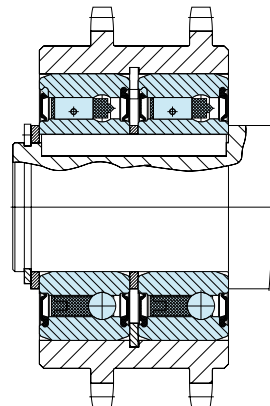
NOTES

1) $T_{max} = 2 \times T_{KN}$
» Refer to Selection page 7 to 11

2) Keyway to DIN 6885.3
Size 40 keyway to DIN 6885.1

» Refer to mounting and maintenance instructions
page 12 to 13

MOUNTING EXAMPLE



Built-In Freewheels

ASNU



TYPE



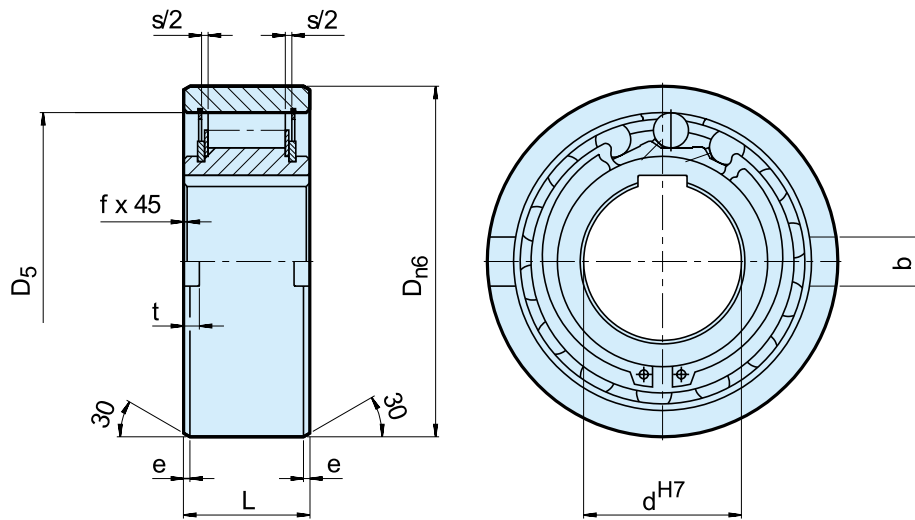
Type ASNU is a roller type freewheel non-bearing supported. Bearings are required to support axial and radial loads. Lubrication and sealing must also be provided by the installation. Nominal outer diameter is the same as a series 63.. ball bearing.

A typical arrangement is to install this type alongside a bearing within the same location tolerances, as shown on the following page. The inner race is keyed to the

shaft. The outer race has positive n6 tolerance, to give a press fit in a H7 housing. Additional side notches in the outer race provide for positive torque transmission.

If the housing is to K6 tolerance, use of the notches is not necessary, but the housing must be strong enough to not expand after assembly. This design can accept an axial misalignment of inner and outer race of $\pm S/2$.

ASNU



Type	Overrunning Speeds												Weight [kg]	Drag Torque T_R [Ncm]
	d^{H7} [mm]	$T_{KN}^{1)}$ [Nm]	$n_{imax}^{2)}$ [min ⁻¹]	$n_{amax}^{3)}$ [min ⁻¹]	D_{n6} [mm]	D_5 [mm]	L [mm]	b [mm]	t [mm]	s [mm]	e [mm]	f [mm]		
ASNU	8	12	3300	5000	35	28	13	4	1,4	2,4	0,6	0,3	0,07	1,6
	12	12	3300	5000	35	28	13	4	1,4	2,4	0,6	0,3	0,06	1,6
	15	30	2400	3600	42	37	18	5	1,8	2,4	0,8	0,3	0,11	1,9
	17	49	2300	3400	47	40	19	5	2,3	2,4	1,2	0,8	0,15	1,9
	20	78	2100	3100	52	42	21	6	2,3	2,4	1,2	0,8	0,19	1,9
	25	125	1700	2600	62	51	24	8	2,8	2,4	1,2	0,8	0,38	5,6
	30	255	1400	2200	72	60	27	10	2,5	2,4	1,8	1	0,54	14
	35	383	1200	1900	80	70	31	12	3,5	2,4	1,8	1	0,74	16
	40	538	1100	1700	90	78	33	12	4,1	2,5	1,8	1	0,92	38
	45	780	1000	1600	100	85	36	14	4,6	2,5	1,8	1	1,31	43
	50	1013	850	1350	110	92	40	14	5,6	2,5	1,8	1	1,74	55
	60	1825	750	1050	130	110	46	18	5,5	3,6	2,6	1,5	2,77	110
	70	2300	600	950	150	125	51	20	6,9	3,6	2,6	1,5	4,16	140
	80	3275	550	850	170	140	58	20	7,5	3,6	2,6	1,5	6,09	180
	90	5325	500	750	190	160	64	20	8,0	3,6	2,6	2	8,2	230
	100	7250	450	680	215	175	73	24	8,5	3,6	2,6	2	12,6	380
	120	13500	370	550	260	215	86	28	10	3,6	2,6	2,5	22	650
	150	26625	300	460	320	260	108	32	12	3,6	3,6	2,5	42	1000
200	44500	230	350	420	350	138	45	16	7,6	3,6	3	93	2000	

NOTES

ASNU8-12, ASNU200 keyway to DIN 6885. 1, other sizes to DIN 6885.3

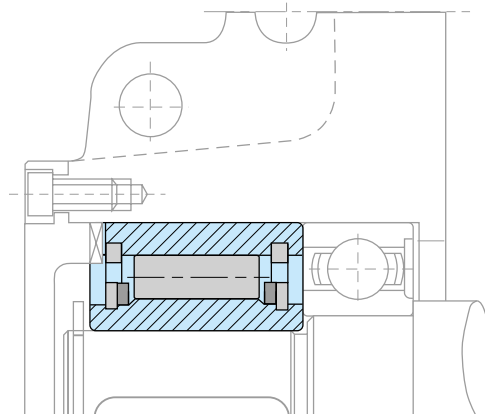
1) $T_{max} = 2 \times T_{KN}$
» Refer to Selection page 7 to 11

2) Inner race overruns

3) Outer race overruns

» Refer to mounting and maintenance instructions page 12 to 13

MOUNTING EXAMPLE



AS



TYPE

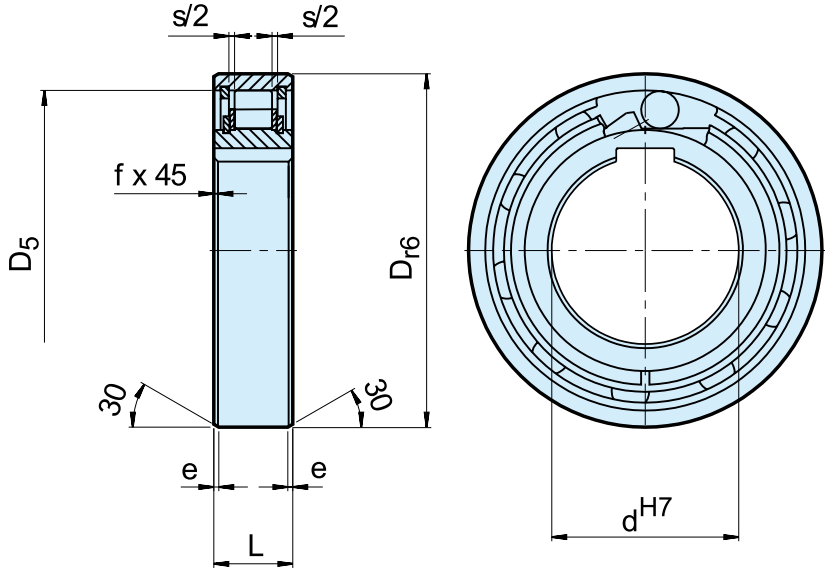


Type AS is a roller type freewheel non-bearing supported. Bearings are required to support axial and radial loads. Lubrication and sealing must also be provided by the installation. Nominal outside dimensions are the same as series 62.. ball bearings.

A typical arrangement is to install this type alongside a series 62 bearing within the same location tolerances, as shown on the following page.

The inner race is keyed to the shaft (except 6 mm bore). The outer race has a positive R6 tolerance to give a press fit in a H7 housing. The outer housing must be strong enough to not expand after assembly. This design can accept an axial misalignment of inner and outer race of $\pm S/2$.

AS



Type	Size	Overrunning speeds									Weight	Drag torque
		$T_{KN}^{1)}$ [Nm]	$n_{imax}^{2)}$ [min ⁻¹]	$n_{amax}^{3)}$ [min ⁻¹]	D_{r6} [mm]	D_5 [mm]	L [mm]	s [mm]	e [mm]	f [mm]		
AS (NSS)	6	2,10	5000	7500	19	15,8	6	0,3	0,6	0,3	0,01	0,18
	8	3,8	4300	6500	24	20	8	1,3	0,6	0,6	0,02	0,24
	10	6,8	3500	5200	30	25,9	9	1,3	0,6	0,6	0,03	0,36
	12	13	3200	4800	32	28	10	1,3	0,6	0,6	0,04	0,48
	15	14	2800	4300	35	31	11	1,4	0,6	0,6	0,05	0,70
	20	40	2200	3300	47	40	14	2,4	0,8	0,8	0,12	1,4
	25	56	1900	2900	52	45,9	15	2,4	0,8	0,8	0,14	2,4
	30	90	1600	2400	62	55	16	2,4	0,8	1	0,22	7,8
	35	143	1300	2000	72	64	17	2,5	0,8	1	0,31	9,0
	40	185	1200	1800	80	72	18	2,5	0,8	1	0,39	10
	45	218	1000	1600	85	77	19	2,5	1,2	1	0,44	11
	50	230	950	1500	90	82	20	2,5	1,2	1	0,49	13
	55	308	800	1300	100	90	21	2,5	1,2	1	0,66	14
	60	508	700	1100	110	100	22	2,5	1,2	1,5	0,81	26
80	1063	600	900	140	128	26	2,5	1,2	1,5	1,41	58	

NOTES

AS6 without keyway. $\varnothing D = \begin{matrix} -0 \\ -0,009 \end{matrix}$
 AS8-12 keyway to DIN 6885.1,
 other sizes to DIN 6885.3

1) $T_{max} = 2 \times T_{KN}$
 » Refer to Selection page 7 to 11

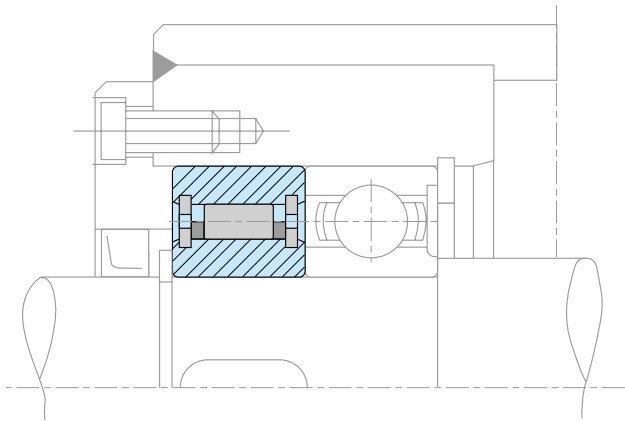
2) Inner race overruns

3) Outer race overruns

Mounting dimensions are identical to ball bearings series 62.

» Refer to mounting and maintenance instructions page 12 to 13

MOUNTING EXAMPLE





TYPE



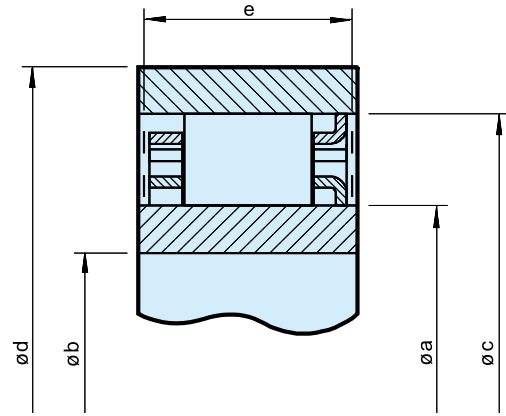
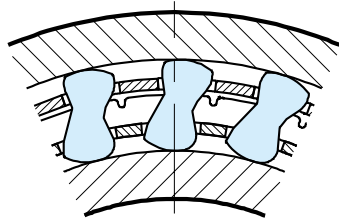
Type DC is a sprag type freewheel cage without inner or outer races. It must be installed in a design providing races, bearing support for axial and radial loads, lubrication and sealing. The DC type version-N accepts all types of lubricants currently used in the power transmission equipment.

The sprag space tolerance must not be exceeded. Inner and outer races must both have a minimum plain width “e”, without any recess, to ensure the freewheel functions correctly as shown on following pages.

Alternatively, races can be made in case hardened steel shafts, or housings, to the specification below. Surface hardness of the finished part should be HRC 60 to 62, for a depth of 0,6 mm minimum.

Core hardness to be HRC35 to 45. Surface roughness not to exceed 22CLA. Maximum taper between races: 0,007 mm for 25 mm width.

DC



DC

Size	Overrunning speeds			Sprag space		Sprag space [mm]	e _{min} [mm]	Ød _{min} [mm]	Øb _{max} [mm]	Number of clips	Number of sprags	Weight [kg]
	T _{KN} ¹⁾ [Nm]	n _{imax} ²⁾ [min ⁻¹]	n _{amax} ³⁾ [min ⁻¹]	Øa + 0,008 - 0,005 [mm]	Øc ± 0,013 [mm]							
DC2222G-N	63	8600	4300	22,225	38,885	8,33 ±0,075	10,0	50	15	-	12	0,030
DC2776-N	119	6900	3400	27,762	44,422	8,33 ±0,075	13,5	58	18	-	14	0,055
DC3034-N	124	6300	3100	30,340	47,000	8,33 ±0,075	13,5	62	20	-	14	0,060
DC3175(3C)-N	159	6000	3000	31,750	48,410	8,33 ±0,075	13,5	63	21	3	16	0,060
DC3809A-N	275	5000	2500	38,092	54,752	8,33 ±0,075	16,0	71	25	-	18	0,085
DC4127(3C)-N	224	4600	2300	41,275	57,935	8,33 ±0,075	13,5	75	27	3	18	0,090
DC4445A-N	363	4300	2100	44,450	61,110	8,33 ±0,075	16,0	79	29	-	20	0,095
DC4972(4C)-N	306	3800	1900	49,721	66,381	8,33 ±0,075	13,5	86	33	4	22	0,100
DC5476A-N	525	3500	1700	54,765	71,425	8,33 ±0,075	16,0	92	36	-	24	0,110
DC5476A(4C)-N	525	3500	1700	54,765	71,425	8,33 ±0,075	16,0	92	36	4	24	0,130
DC5476B(4C)-N	769	3500	1700	54,765	71,425	8,33 ±0,075	21,0	92	36	4	24	0,180
DC5476C(4C)-N	990	3500	1700	54,765	71,425	8,33 ±0,075	25,4	92	36	4	24	0,200
DC5776A-N	604	3300	1600	57,760	74,420	8,33 ±0,075	16,0	98	38	-	26	0,110
DC6334B-N	806	3000	1500	63,340	80,000	8,33 ±0,075	21,0	104	42	-	26	0,175
DC7221(5C)-N	675	2600	1300	72,217	88,877	8,33 ±0,075	13,5	115	48	5	30	0,140
DC7221B-N	1279	2600	1300	72,217	88,877	8,33 ±0,075	21,0	115	48	-	30	0,185
DC7221B(5C)-N	1279	2600	1300	72,217	88,877	8,33 ±0,075	21,0	115	48	5	30	0,210
DC7969C(5C)-N	2038	2400	1200	79,698	96,358	8,33 ±0,075	25,4	124	53	5	34	0,280
DC8334C-N	2055	2300	1100	83,340	100,000	8,33 ±0,075	25,4	132	55	-	34	0,270
DC8729A-N	1250	2200	1100	87,290	103,960	8,33 ±0,075	16,0	134	58	-	34	0,165
DC10323A(5C)*-N	1612	1800	900	103,231**	119,891	8,33 ±0,075	16,0	155	68	5	40	0,205
DC12334C*-N	4800	1500	750	123,340**	140,000	8,33 ±0,075	25,4	184	80	-	50	0,400
DC12388C(11C)	4875	1500	750	123,881**	142,880	9,50 ±0,1	25,4	186	80	11	44	0,400

NOTES

1) $T_{max} = 2 \times T_{KN}$

» Refer to Selection page 7 to 11

2) Inner race overruns

3) Outer race overruns

*) The inner cage centering flange is on the opposite side

**) Extension of tolerance to ± 0,013 permissible

Other dimensions on request

» Refer to mounting and maintenance instructions page 12 to 13

MOUNTING EXAMPLES

