

Drawn cup needle roller bearings



Opened and closed drawn cup needle roller bearings are needle roller bearings with the smallest radial construction height consisting of a thin walled non-cutting outer

rings and needle cages. Cage with needles allows rolling placing with high load capacity and also provides excellent function of the bearing even at high speeds and long lubrication intervals thanks to the large spaces for grease.

These drawn cup needle roller bearings, if not placed directly on the hardened shafts, may be combined with inner rings LR or IR. Inner rings belonging to specific bearings are indicated in the dimension tables.

Drawn cup needle roller bearings are supplied in these design:

- HK - opened drawn cup needle roller bearings with a cage
- BK - drawn cup needle roller bearings with a cage, one-side closed

In comparison with opened drawn cup needle roller bearings the closed drawn cup needle roller bearings type do have closed bottoms and are suitable to close the placing at the end of the shaft and to capture the start-up forces.

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Dimensions						Bearing designation	Basic load rating		Fatigue load limit	Limiting speed for lubrication with		Mass	Applicable inner rings	
							dynamic	static						
d	F _w	D	B	t _{min}	r _{s min}		C _r	C _{or}	C _u	grease	oil			
mm							kN			min ⁻¹		g	IR	LR
3	3	6.5	6	-	0.3	HK0306TN	1.32	0.95	0.115	40000	60000	1.0	–	–
3	3	6.5	6	5.2	0.3	BK0306TN	1.32	0.95	0.115	40000	60000	1.0	–	–
4	4	8	8	-	0.4	HK0408TN	1.76	1.37	0.167	32000	48000	1.6	–	–
4	4	8	8	6.4	0.4	BK0408TN	1.76	1.37	0.167	32000	48000	1.8	–	–
5	5	9	9	-	0.4	HK0509	2.45	2.16	0.263	24000	38000	2.0	–	–
5	5	9	9	7.4	0.4	BK0509	2.45	2.16	0.263	24000	38000	2.1	–	–
6	6	10	8	-	0.4	HK0608	2.28	2.04	0.248	20000	34000	2.1	–	–
6	6	10	8	7.4	0.4	BK0608	2.28	2.04	0.248	20000	34000	2.2	–	–
6	6	10	9	-	0.4	HK0609	3.05	2.9	0.353	20000	34000	2.2	–	–
6	6	10	9	7.4	0.4	BK0609	3.05	2.9	0.353	20000	34000	2.6	–	–
7	7	11	9	-	0.4	HK0709	3.1	3.15	0.384	18000	30000	2.3	–	–
7	7	11	9	7.4	0.4	BK0709	3.1	3.15	0.384	18000	30000	2.9	–	–
8	8	12	8	-	0.4	HK0808	2.8	2.85	0.347	16000	26000	2.7	–	–
8	8	12	8	6.4	0.4	BK0808	2.8	2.85	0.347	16000	26000	3.0	–	–
8	8	12	10	-	0.4	HK0810	3.8	4.15	0.506	16000	26000	3.0	IR5x8x12	–
8	8	12	10	8.4	0.4	BK0810	3.8	4.15	0.506	16000	26000	3.4	IR5x8x12	–
9	9	13	10	-	0.4	HK0910	4.4	5.2	0.634	15000	24000	4.0	IR6x9x12	–
9	9	13	10	8.4	0.4	BK0910	4.4	5.2	0.634	15000	24000	4.3	IR6x9x12	–

Dimensions						Bearing designation	Basic load rating		Fatigue load limit	Limiting speed for lubrication with		Mass	Applicable inner rings	
							dynamic	static						
d	F _w	D	B	t _{min}	r _{s min}		C _r	C _{or}	C _u	grease	oil			
mm							kN			min ⁻¹		g	IR	LR
9	9	13	12	-	0.4	HK0912	5.4	6.8	0.829	15000	24000	4.6	IR6x9x12	–
9	9	13	12	10.4	0.4	BK0912	5.4	6.8	0.829	15000	24000	4.9	IR6x9x12	–
10	10	14	10	-	0.4	HK1010	4.55	5.7	0.695	14000	22000	4.1	IR7x10x10.5	–
10	10	14	10	8.4	0.4	BK1010	4.55	5.7	0.695	14000	22000	4.3	IR7x10x10.5	–
10	10	14	12	-	0.4	HK1012	5.6	7.35	0.896	14000	22000	4.8	IR7x10x12	–
10	10	14	12	10.4	0.4	BK1012	5.6	7.35	0.896	14000	22000	5.0	IR7x10x12	–
10	10	14	15	-	0.4	HK1015	7.1	10.0	1.219	14000	22000	6.0	IR7x10x16	–
10	10	14	15	13.4	0.4	BK1015	7.1	10.0	1.219	14000	22000	6.2	IR7x10x16	–
12	12	16	10	-	0.4	HK1210	4.75	6.3	0.768	12000	19000	4.6	IR8x12x10,5	LR8x12x10.5
12	12	16	10	8.4	0.4	BK1210	4.75	6.3	0.768	12000	19000	5.2	IR8x12x10,5	LR8x12x10.5
12	12	18	12	-	1	HK1212	6.55	7.8	0.951	12000	19000	5.6	IR8x12x12.5	LR8x12x12.5
12	12	18	12	9.3	1	BK1212	6.55	7.8	0.951	12000	19000	6.2	IR8x12x12.5	LR8x12x12.5
13	13	19	12	-	1	HK1312	6.8	8.5	1.036	11000	18000	8.9	IR10x13x12.5	LR10x13x12.5
13	13	19	12	9.3	1	BK1312	6.8	8.5	1.036	11000	18000	11.2	IR10x13x12.5	LR10x13x12.5
14	14	20	12	-	1	HK1412	6.8	8.5	1.036	10000	17000	10.5	IR10x14x13	–
14	14	20	12	9.3	1	BK1412	6.8	8.5	1.036	10000	17000	12.0	IR10x14x13	–
15	15	21	12	-	1	HK1512	7.5	9.8	1.195	9500	16000	11.1	IR12x15x12.5	LR12x15x12.5
15	15	21	12	9.3	1	BK1512	7.5	9.8	1.195	9500	16000	12.7	IR12x15x12.5	LR12x15x12.5
15	15	21	16	-	1	HK1516	10.2	14.6	1.780	9500	16000	15.0	IR12x15x16.5	LR12x15x16.5
15	15	21	16	13.3	1	BK1516	10.2	14.6	1.780	9500	16000	16.5	IR12x15x16.5	LR12x15x16.5
15	15	21	22	-	1	HK1522	12.9	19.6	2.390	9500	16000	20.4	IR12x15x22.5	LR12x15x22.5
15	15	21	22	19.3	1	BK1522	12.9	19.6	2.390	9500	16000	22.0	IR12x15x22.5	LR12x15x22.5
16	16	22	12	-	1	HK1612	7.35	9.8	1.195	9500	16000	11.7	IR12x16x13	–
16	16	22	12	9.3	1	BK1612	7.35	9.8	1.195	9500	16000	13.8	IR12x16x13	–
16	16	22	16	-	1	HK1616	10.2	15.0	1.829	9500	16000	15.8	IR12x16x16	–
16	16	22	16	13.3	1	BK1616	10.2	15.0	1.829	9500	16000	17.6	IR12x16x16	–
16	16	22	22	-	1	HK1622	12.7	19.6	2.390	9500	16000	21.7	IR12x16x22	–
16	16	22	22	19.3	1	BK1622	12.7	19.6	2.390	9500	16000	23.4	IR12x16x22	–
17	17	23	12	-	1	HK1712	7.65	10.6	1.292	9000	15000	12.2	–	–
17	17	23	12	9.3	1	BK1712	7.65	10.6	1.292	9000	15000	14.5	–	–
18	18	24	12	-	1	HK1812	8.0	11.2	1.365	9000	15000	13.1	IR15x18x12.5	–
18	18	24	12	9.3	1	BK1812	8.0	11.2	1.365	9000	15000	14.9	IR15x18x12.5	–
18	18	24	16	-	1	HK1816	11.0	17.0	2.073	9000	15000	17.5	IR15x18x16.5	–
18	18	24	16	13.3	1	BK1816	11.0	17.0	2.073	9000	15000	19.9	IR15x18x16.5	–
20	20	26	12	-	1	HK2012	8.5	12.7	1.548	8000	13000	14.1	IR15x20x13	–
20	20	26	12	9.3	1	BK2012	8.5	12.7	1.548	8000	13000	16.7	IR15x20x13	–
20	20	26	16	-	1	HK2016	11.8	19.0	2.317	8000	13000	19.3	IR17x20x16.5	–
20	20	26	16	13.3	1	BK2016	11.8	19.0	2.317	8000	13000	22.3	IR17x20x16.5	–
20	20	26	20	-	1	HK2020	14.6	25.5	3.109	8000	13000	24.1	IR17x20x20.5	–
20	20	26	20	17.3	1	BK2020	14.6	25.5	3.109	8000	13000	27.1	IR17x20x20.5	–
20	20	26	30	-	1	HK2030	20.0	38.0	4.634	8000	13000	41.0	IR17x20x30.5	–

Dimensions						Bearing designation	Basic load rating		Fatigue load limit	Limiting speed for lubrication with		Mass	Applicable inner rings	
							dynamic	static						
d	F _w	D	B	t _{min}	r _{s min}		C _r	C _{or}	C _u	grease	oil			
mm							kN			min ⁻¹		g	IR	LR
20	20	26	30	27.3	1	BK2030	20.0	38.0	4.634	8000	13000	43.0	IR17x20x30.5	–
22	22	28	12	-	1	HK2212	8.65	13.4	1.634	7500	12000	15.0	IR17x22x13	–
22	22	28	12	9.3	1	BK2212	8.65	13.4	1.634	7500	12000	18.1	IR17x22x13	–
22	22	28	16	-	1	HK2216	12.5	21.2	2.585	7500	12000	20.9	IR17x22x16	–
22	22	28	16	13.3	1	BK2216	12.5	21.2	2.585	7500	12000	24.3	IR17x22x16	–
22	22	28	20	-	1	HK2220	14.6	25.5	3.109	7500	12000	26.2	IR17x22x23	–
22	22	28	20	17.3	1	BK2220	14.6	25.5	3.109	7500	12000	29.9	IR17x22x23	–
25	25	32	12	-	1	HK2512	10.8	15.6	1.902	6700	10000	20.0	IR20x25x12.5	–
25	25	32	12	9.3	1	BK2512	10.8	15.6	1.902	6700	10000	23.2	IR20x25x12.5	–
25	25	32	16	-	1	HK2516	15.6	25.0	3.048	6700	10000	27.3	IR20x25x17	–
25	25	32	16	13.3	1	BK2516	15.6	25.0	3.048	6700	10000	31.0	IR20x25x17	–
25	25	32	20	-	1	HK2520	19.6	34.0	4.146	6700	10000	34.1	IR20x25x20.5	–
25	25	32	20	17.3	1	BK2520	19.6	34.0	4.146	6700	10000	38.7	IR20x25x20.5	–
25	25	32	26	-	1	HK2526	23.6	43.0	5.243	6700	10000	44.8	IR20x25x26.5	–
25	25	32	26	23.3	1	BK2526	23.6	43.0	5.243	6700	10000	49.0	IR20x25x26.5	–
25	25	32	38	-	1	HK2538	33.5	68.0	8.292	6700	10000	64.7	IR20x25x38.5	–
25	25	32	38	35.3	1	BK2538	33.5	68.0	8.292	6700	10000	69.0	IR20x25x38.5	–
28	28	35	16	-	1	HK2816	15.3	25.5	3.109	6300	9500	30.1	IR22x28x17	–
28	28	35	16	13.3	1	BK2816	15.3	25.5	3.109	6300	9500	34.1	IR22x28x17	–
28	28	35	20	-	1	HK2820	20.0	36.0	4.390	6300	9500	37.6	IR22x28x20.5	–
28	28	35	20	17.3	1	BK2820	20.0	36.0	4.390	6300	9500	43.0	IR22x28x20.5	–
30	30	37	12	-	1	HK3012	11.2	17.3	2.109	5600	8500	24.0	IR25x30x12.5	–
30	30	37	12	9.3	1	BK3012	11.2	17.3	2.109	5600	8500	27.9	IR25x30x12.5	–
30	30	37	16	-	1	HK3016	16.0	28.0	3.414	5600	8500	32.0	IR25x30x17	–
30	30	37	16	13.3	1	BK3016	16.0	28.0	3.414	5600	8500	37.1	IR25x30x17	–
30	30	37	20	-	1	HK3020	21.6	40.5	4.939	5600	8500	40.1	IR25x30x20.5	–
30	30	37	20	17.3	1	BK3020	21.6	40.5	4.939	5600	8500	46.5	IR25x30x20.5	–
30	30	37	26	-	1	HK3026	26.0	52.0	6.341	5600	8500	52.9	IR25x30x26.5	–
30	30	37	26	23.3	1	BK3026	26.0	52.0	6.341	5600	8500	59.4	IR25x30x26.5	–
30	30	37	38	-	1	HK3038	36.5	81.5	9.939	5600	8500	76.1	IR25x30x38.5	–
30	30	37	38	35.3	1	BK3038	36.5	81.5	9.939	5600	8500	82.5	IR25x30x38.5	–
35	35	42	12	-	1	HK3512	12.9	22.0	2.682	5000	7500	27.7	IR30x35x12.5	–
35	35	42	12	9.3	1	BK3512	12.9	22.0	2.682	5000	7500	32.9	IR30x35x12.5	–
35	35	42	16	-	1	HK3516	16.6	30.5	3.719	5000	7500	36.9	IR30x35x17	–
35	35	42	16	13.3	1	BK3516	16.6	30.5	3.719	5000	7500	43.8	IR30x35x17	–
35	35	42	20	-	1	HK3520	23.2	47.5	5.792	5000	7500	46.1	IR30x35x20.5	–
35	35	42	20	17.3	1	BK3520	23.2	47.5	5.792	5000	7500	54.8	IR30x35x20.5	–
40	40	47	12	-	1	HK4012	12.9	23.2	2.829	4500	6700	31.1	IR35x40x12.5	–
40	40	47	12	9.3	1	BK4012	12.9	23.2	2.829	4500	6700	38.2	IR35x40x12.5	–
40	40	47	16	-	1	HK4016	18.0	35.5	4.329	4500	6700	41.4	IR35x40x17	–
40	40	47	16	13.3	1	BK4016	18.0	35.5	4.329	4500	6700	51.0	IR35x40x17	–

Dimensions						Bearing designation	Basic load rating		Fatigue load limit	Limiting speed for lubrication with		Mass	Applicable inner rings	
							dynamic	static						
d	F _w	D	B	t _{min}	r _{s min}		C _r	C _{or}	C _u	grease	oil			
mm							kN			min ⁻¹		g	IR	LR
40	40	47	20	-	1	HK4020	24.0	51.0	6.219	4500	6700	51.8	IR35x40x20.5	-
40	40	47	20	17.3	1	BK4020	24.0	51.0	6.219	4500	6700	62.0	IR35x40x20.5	-
45	45	52	16	-	1	HK4516	19.0	39.0	4.756	4000	6000	46.2	IR40x45x17	-
45	45	52	16	13.3	1	BK4516	19.0	39.0	4.756	4000	6000	56.0	IR40x45x17	-
45	45	52	20	-	1	HK4520	25.0	56.0	6.829	4000	6000	56.0	IR40x45x20.5	-
45	45	52	20	17.3	1	BK4520	25.0	56.0	6.829	4000	6000	72.0	IR40x45x20.5	-
50	50	58	20	-	1	HK5020	27.5	57.0	6.951	3600	5300	72.0	IR45x50x20.5	-
50	50	58	20	17.3	1	BK5020	27.5	57.0	6.951	3600	5300	87.3	IR45x50x20.5	-
50	50	58	25	-	1	HK5025	33.5	75.0	9.146	3600	5300	90.1	IR45x50x25.5	-
50	50	58	25	22.3	1	BK5025	33.5	75.0	9.146	3600	5300	109.0	IR45x50x25.5	-
8	8	12	10	-	0.4	HK0810RS	2.3	2.1	0.256	14000	-	2.9	IR5x8x12	-
8	8	12	12	-	0.4	HK0812-2RS	2.3	2.1	0.256	14000	-	3.4	IR5x8x16	-
10	10	14	12	-	0.4	HK1012RS	4.1	5.0	0.609	13000	-	4.2	IR7x10x16	-
10	10	14	14	-	0.4	HK1014-2RS	4.1	5.0	0.609	13000	-	5.2	IR7x10x16	-
12	12	18	14	-	0.4	HK1214RS	6.1	7.0	0.853	12000	-	10.7	IR8x12x12.5	LR8x12x12.5
12	12	18	16	-	1	HK1216-2RS	6.1	7.0	0.853	12000	-	11.5	IR8x12x16	-
14	14	20	14	-	1	HK1414RS	6.1	7.5	0.914	11000	-	12.0	IR10x14x16	-
14	14	20	14	11.3	1	BK1414RS	6.1	7.5	0.914	11000	-	14.1	IR10x14x16	-
14	14	20	16	-	1	HK1416-2RS	6.1	7.5	0.914	11000	-	14.0	IR10x14x20	-
15	15	21	14	-	1	HK1514RS	6.8	8.8	1.073	11000	-	12.6	IR12x15x16.5	-
15	15	21	14	11.3	1	BK1514RS	6.8	8.8	1.073	11000	-	14.4	12x15x16.5	-
15	15	21	16	-	1	HK1516-2RS	6.8	8.8	1.073	11000	-	14.3	IR12x15x16.5	LR12x15x16.5
15	15	21	18	-	1	HK1518RS	9.5	11.4	1.390	11000	-	16.0	-	-
15	15	21	20	-	1	HK1520-2RS	9.5	11.4	1.390	11000	-	22.0	IR12x15x22.5	LR12x15x22.5
16	16	22	14	-	1	HK1614RS	7.2	9.2	1.121	10000	-	15.1	IR12x16x16	-
16	16	22	14	11.3	1	BK1614RS	7.2	9.2	1.121	10000	-	15.3	IR12x16x13	-
16	16	22	16	-	1	HK1616-2RS	7.2	9.2	1.121	10000	-	15.1	IR12x16x16.5	-
16	16	22	20	-	1	HK1620-2RS	9.9	12.3	1.500	10000	-	16.8	IR12x16x20	-
16	16	22	25	-	1	HK1625-2RS	9.9	12.3	1.500	10000	-	19.4	-	-
18	18	24	14	-	1	HK1814RS	7.8	9.9	1.207	9500	-	15.1	IR15x18x16.5	-
18	18	24	16	-	1	HK1816-2RS	7.8	9.9	1.207	9500	-	17.0	IR15x18x16.5	-
20	20	26	12	-	1	HK2012-2RS	9.5	11.9	1.451	9000	-	11.7	-	-
20	20	26	16	-	1	HK2016-2RS	8.0	10.1	1.231	9000	-	18.8	IR17x20x16.5	-
20	20	26	18	-	1	HK2018 RS	12.7	20.1	2.451	9000	-	21.4	IR17x20x20.5	-
20	20	26	18	15.3	1	BK2018 RS	12.7	20.1	2.451	9000	-	24.4	IR17x20x16.5	-
20	20	26	20	-	1	HK2020-2RS	12.7	20.1	2.451	9000	-	23.5	IR17x20x20.5	-
22	22	28	12	-	1	HK2212 RS	8.3	10.0	1.219	7500	-	14.0	-	-
22	22	28	14	-	1	HK2214 RS	9.0	12.4	1.512	7500	-	18.3	IR17x22x16	-
22	22	28	16	-	1	HK2216-2RS	9.0	12.4	1.512	7500	-	20.3	IR17x22x16	-
22	22	28	18	15.3	1	HK2218 RS	10.4	20.1	2.451	7500	-	23.5	IR17x22x20.5	-
22	22	28	20	-	1	HK2220-2RS	10.4	20.1	2.451	7500	-	25.5	IR17x22x20.5	-

Dimensions						Bearing designation	Basic load rating		Fatigue load limit	Limiting speed for lubrication with		Mass	Applicable inner rings	
							dynamic	static		grease	oil			
d	F _w	D	B	t _{min}	r _{s min}		C _r	C _{or}	C _u					
mm							kN			min ⁻¹				
25	25	32	16	–	1	HK2516-2RS	9.8	13.2	1.609	6700	–	27.3	IR20x25x17	–
25	25	32	18	–	1	HK2518 RS	13.6	20.0	2.439	6700	–	31.0	IR20x25x20	–
25	25	32	18	15.3	1	BK2518 RS	13.6	20.0	2.439	6700	–	35.3	IR20x25x20	–
25	25	32	20	–	1	HK2520-2RS	13.6	20.0	2.439	6700	–	33.1	IR20x25x20.5	–
25	25	32	24	–	1	HK2524-2RS	17.9	30.0	3.658	6700	–	39.7	–	–
25	25	32	30	–	1	HK2530-2RS	24.5	43.0	5.243	6700	–	47.3	IR20x25x30	–
28	28	35	20	–	1	HK2820-2RS	11.4	22.5	2.743	6300	–	36.9	IR22x28x20.5	–
30	30	37	16	–	1	HK3016-2RS	10.1	16.2	1.975	5600	–	28.5	IR25x30x17	–
30	30	37	18	–	1	HK3018 RS	16.2	26.0	3.170	5600	–	36.6	IR25x30x20.5	–
30	30	37	20	–	1	HK3020-2RS	16.2	26.0	3.170	5600	–	39.1	IR25x30x20.5	–
30	30	37	24	–	1	HK3024-2RS	21.0	38.5	4.695	5600	–	49.7	–	–
35	35	42	16	–	1	HK3516-2RS	10.1	20.3	2.475	5000	–	36.4	IR30x35x17	–
35	35	42	18	–	1	HK3518 RS	16.7	30.5	3.719	5000	–	37.4	IR30x35x20.5	–
35	35	42	20	–	1	HK3520-2RS	16.7	30.5	3.719	5000	–	41.1	IR30x35x20.5	–
40	40	47	16	–	1	HK4016-2RS	11.0	21.3	2.597	4500	–	41.2	IR35x40x17	–
40	40	47	18	–	1	HK4018 RS	19.0	30.5	3.719	4500	–	47.3	IR35x40x20.5	–
40	40	47	20	–	1	HK4020-2RS	19.0	30.5	3.719	4500	–	50.2	IR35x40x20.5	–
45	45	52	18	–	1	HK4518 RS	20.3	41.0	5.000	4000	–	54.2	IR40x45x20.5	–
45	45	52	20	–	1	HK4520-2RS	20.3	41.0	5.000	4000	–	57.4	IR40x45x20.5	–
50	50	58	22	–	1	HK5022 RS	30.0	61.0	7.439	3600	–	77.2	IR45x50x25.5	–
50	50	58	24	–	1	HK5024-2RS	30.0	61.0	7.439	3600	–	84.0	IR45x50x25.5	–