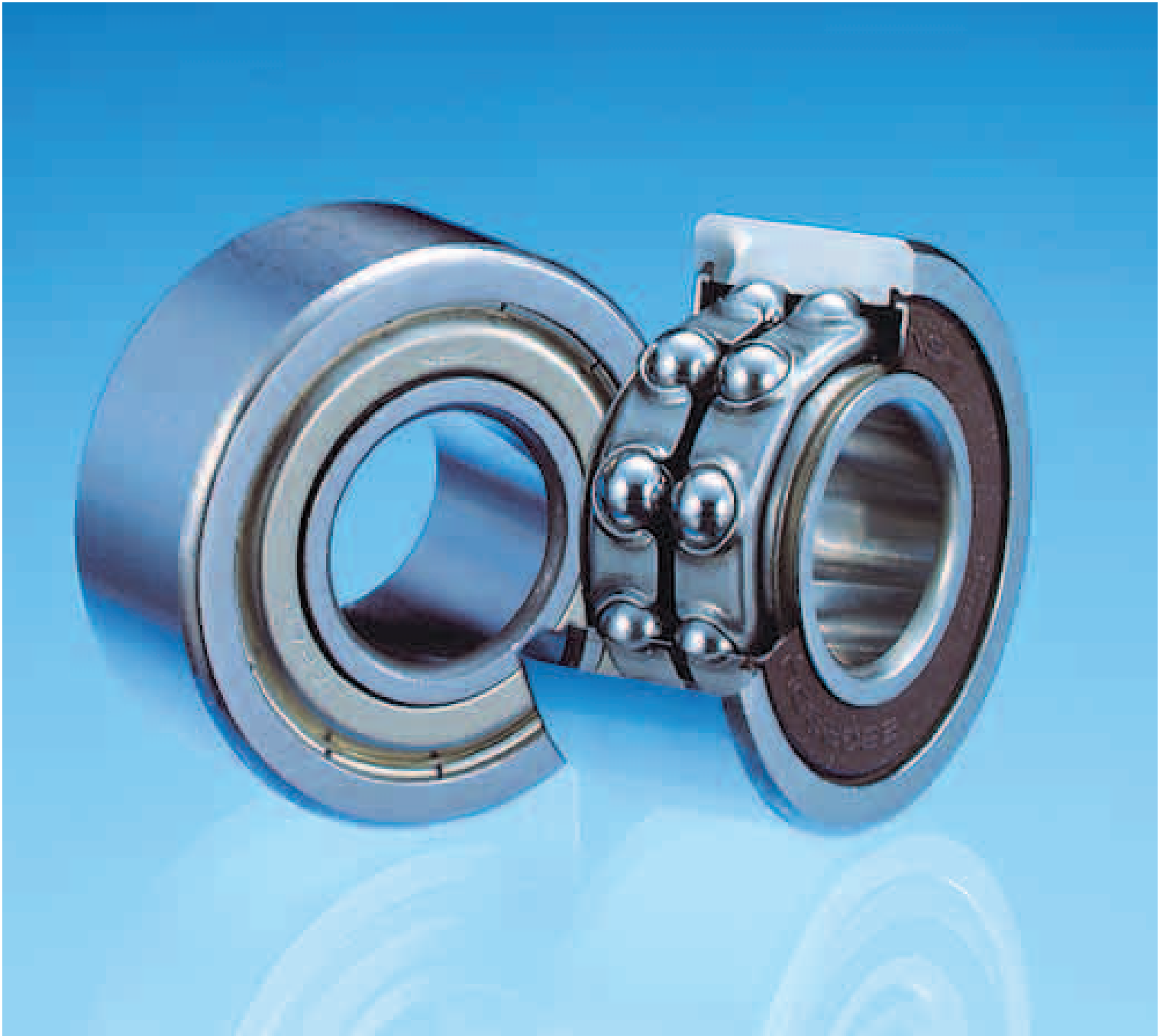


# Sealed & Shielded Type Double Row Angular Contact Ball Bearings

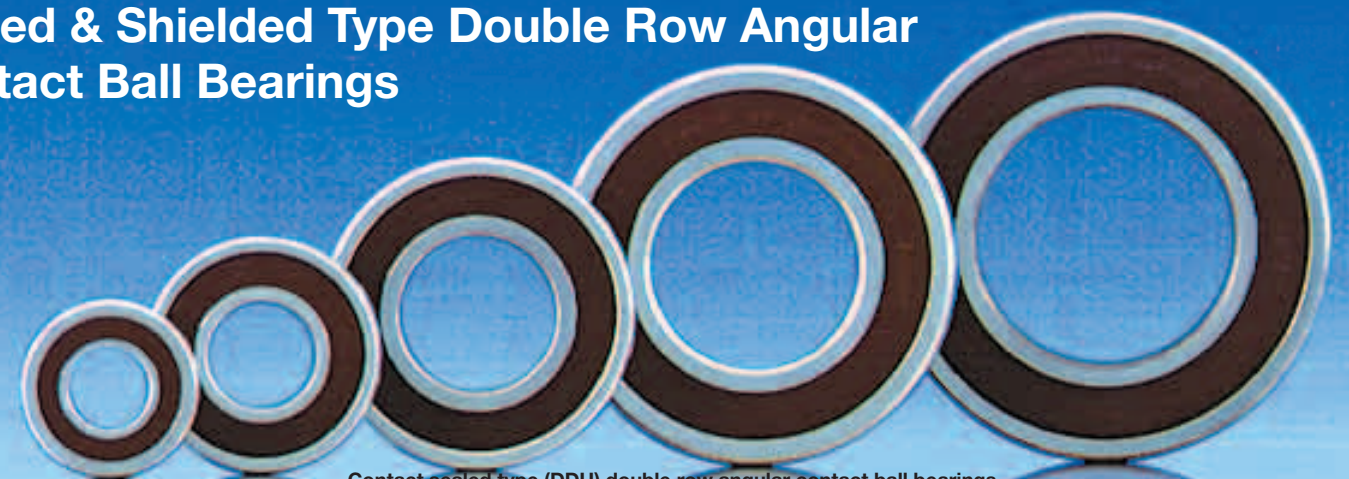
In addition to the quality and compactness customers already enjoy, NSK now offers sealed and shielded types for greater convenience and protection.



# Sealed & Shielded Type Double Row Angular Contact Ball Bearings



Shielded type (ZZ) double row angular contact ball bearings



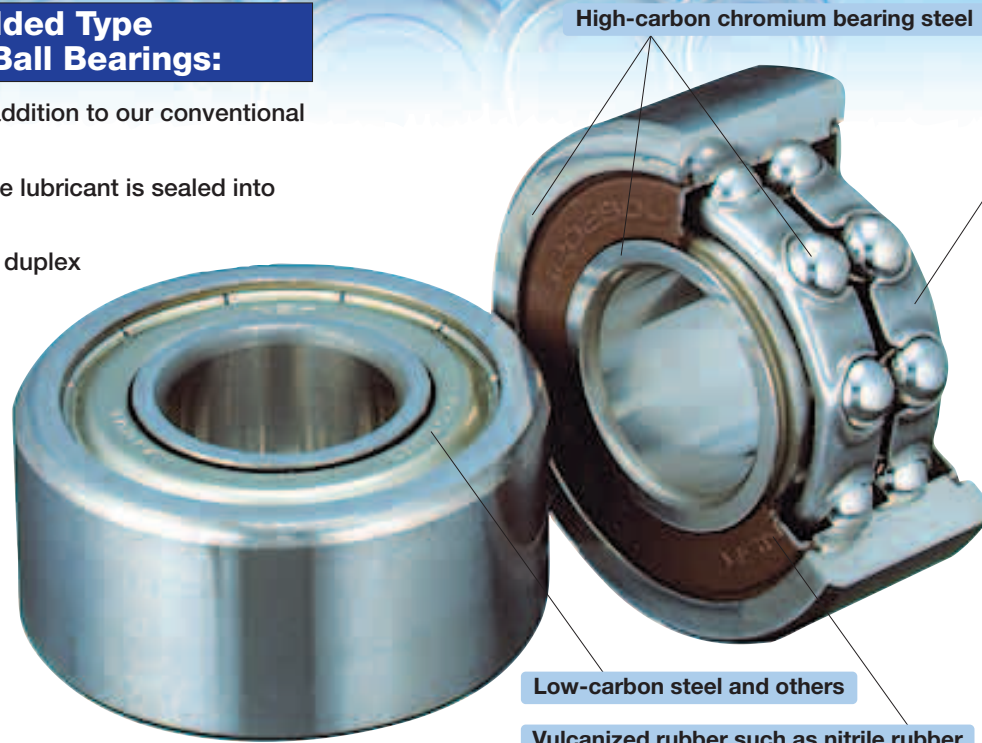
Contact sealed type (DDU) double row angular contact ball bearings

## Features of the Sealed & Shielded Type Double Row Angular Contact Ball Bearings:

- Availability of sealed or shielded types in addition to our conventional open-type products
- No need to replace or refill grease since the lubricant is sealed into the bearings
- Compact and narrower than back-to-back duplex (DB) products
- Capable of accommodating heavy radial loads, axial loads in either direction
- High capacity for momentary loads

Bearing Nomenclature

5202□DDU	NS7S
Internal configuration	Grease type
5202□ZZ	NS7S

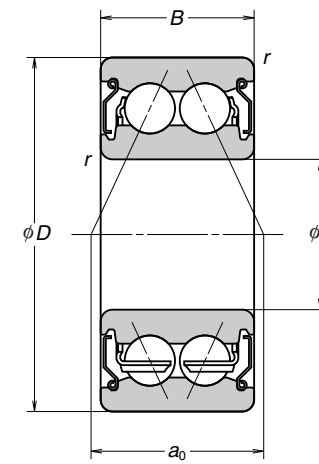


High-carbon chromium bearing steel

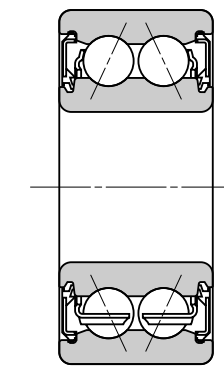
Low-carbon steel and others

Low-carbon steel and others

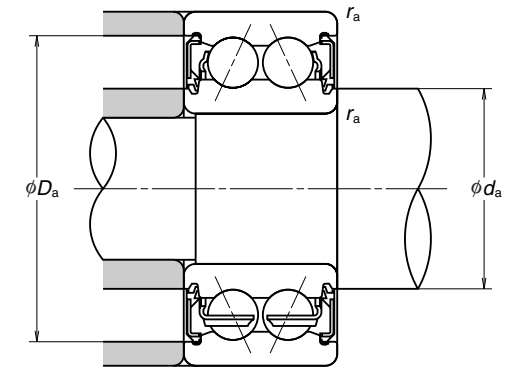
Vulcanized rubber such as nitrile rubber



Shielded type (ZZ)



Contact sealed type (DDU)



Dynamic Equivalent Load:  
 $P = XF_r + YF_a$

e	$F_a / F_r \leq e$		$F_a / F_r > e$	
	X	Y	X	Y
0.68	1	0.92	0.67	1.41

Static Equivalent Load:  
 $P_0 = F_r + 0.76F_a$

Bearing Numbers <sup>(1)</sup>	Boundary Dimensions (mm)		Basic Load Ratings				Limiting Speeds (min <sup>-1</sup> )		Abutment and Fillet Dimensions (mm)				Load Center Spacings (mm)				
	Shielded Type	Sealed Type	d	D	B	r (Minimum)	C <sub>r</sub> (N)	C <sub>or</sub> (kgf)	C <sub>r</sub> (N)	C <sub>or</sub> (kgf)	ZZ	DDU	d <sub>a</sub> (Minimum)	d <sub>a</sub> (Maximum)	D <sub>a</sub> (Minimum)	r <sub>a</sub> (Maximum)	a <sub>0</sub>
5200	ZZ	DDU	10	30	14.3	0.6	7 150	3 900	730	400	17 000	15 000	14	15.5	26	0.6	14.5
5201	ZZ	DDU	12	32	15.9	0.6	8 500	5 300	865	540	15 000	12 000	16	19.0	28	0.6	16.3
5202	ZZ	DDU	15	35	15.9	0.6	8 500	5 300	865	540	13 000	12 000	19	19.0	31	0.6	16.3
5302	ZZ	DDU		42	19.0	1	14 700	9 100	1 500	930	11 000	10 000	21	22.5	36	1	21.0
5203	ZZ	DDU	17	40	17.5	0.6	12 700	8 300	1 290	850	11 000	10 000	21	23.5	36	0.6	20.1
5303	ZZ	DDU		47	22.2	1	19 600	12 400	2 000	1 270	10 000	9 500	23	25.5	41	1	24.3
5204	ZZ	DDU	20	47	20.6	1	15 900	10 700	1 620	1 090	10 000	9 000	26	26.5	41	1	23.0
5304	ZZ	DDU		52	22.2	1.1	19 700	12 800	2 010	1 300	9 000	8 500	27	28.0	45	1	25.4
5205	ZZ	DDU	25	52	20.6	1	16 900	12 300	1 730	1 260	8 500	7 500	31	32.0	46	1	25.4
5305	ZZ	DDU		62	25.4	1.1	25 200	18 200	2 570	1 850	7 500	6 300	32	38.5	55	1	30.9
5206	ZZ	DDU	30	62	23.8	1	25 200	18 200	2 570	1 850	7 100	6 300	36	38.5	56	1	30.9
5306	ZZ	DDU		72	30.2	1.1	39 000	28 700	4 000	2 920	6 300	5 300	37	44.5	65	1	36.6
5207	ZZ	DDU	35	72	27.0	1.1	34 000	25 300	3 500	2 580	6 300	5 300	42	45.0	65	1	36.3
5307	ZZ	DDU		80	34.9	1.5	44 000	33 500	4 500	3 400	5 600	4 800	44	50.5	71	1.5	41.5
5208	ZZ	DDU	40	80	30.2	1.1	36 500	29 000	3 700	2 960	5 600	4 800	47	50.5	73	1	39.4
5308	ZZ	DDU		90	36.5	1.5	49 500	38 000	5 050	3 900	5 300	4 500	49	53.0	81	1.5	43.8
5209	ZZ	DDU	45	85	30.2	1.1	41 500	33 500	4 250	3 450	5 000	4 300	52	55.5	78	1	42.5
5309	ZZ	DDU		100	39.7	1.5	61 500	48 500	6 250	4 950	4 500	3 900	54	61.5	91	1.5	50.4
5210	ZZ	DDU	50	90	30.2	1.1	40 500	36 000	4 100	3 700	4 800	4 000	57	60.0	83	1	44.0
5310	ZZ	DDU		110	44.4	2.5	74 000	59 500	7 550	6 050	4 300	3 600	62	67.0	98	2.5	54.8
5211	ZZ	DDU	55	100	33.3	1.5	49 500	43 500	5 050	4 450	4 300	3 600	64	66.5	91	1.5	49.2
5311	ZZ	DDU		120	49.2	2.5	88 000	71 500	8 950	7 300	3 800	3 200	67	73.5	108	2.5	60.0

Note: (1) These bearing numbers are for the double-shielded and double-sealed types. Single-shielded and single-sealed types are also available.

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