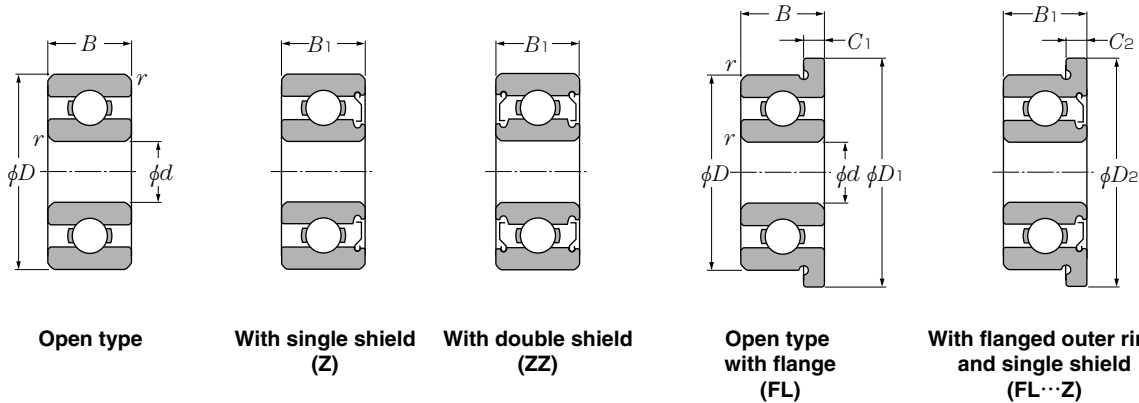


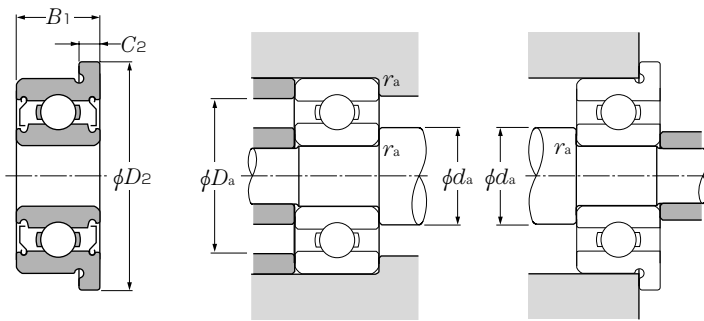
## Metric series



**d** 1.5 ~ 5mm

d	Boundary dimensions								Basic load ratings				Factor $f_o$	Limiting speeds	
	D	B	B <sub>1</sub>	D <sub>1</sub>	D <sub>2</sub>	C <sub>1</sub>	C <sub>2</sub>	$r_{s\ min}^{1)}$	dynamic N	static kgf	dynamic kgf	static kgf		grease	oil
	mm	mm	mm	mm	mm	mm	mm	mm						min <sup>-1</sup>	min <sup>-1</sup>
<b>1.5</b>	4	1.2	2	5	5	0.4	0.6	0.15	102	29.0	10.0	3.00	13.6	88 000	100 000
	5	2	2.6	6.5	6.5	0.6	0.8	0.15	171	51.0	17.0	5.00	13.3	79 000	93 000
	6	2.5	3	7.5	7.5	0.6	0.8	0.15	274	86.0	28.0	9.00	12.3	71 000	84 000
<b>2</b>	4	1.2	—	—	—	—	—	0.05	104	37.0	11.0	4.00	14.8	83 000	98 000
	5	1.5	2.3	6.1	6.1	0.5	0.6	0.08	171	51.0	17.0	5.00	13.3	74 000	87 000
	5	2	2.5	—	—	—	—	0.1	171	51.0	17.0	5.00	13.3	74 000	87 000
	6	2.3	3	7.5	7.5	0.6	0.8	0.15	279	89.0	28.0	9.00	12.8	67 000	79 000
	6	2.5	—	7.2	—	0.6	—	0.15	279	89.0	28.0	9.00	12.8	67 000	79 000
	7	2.5	—	—	—	—	—	0.15	390	120	40.0	12.0	11.9	59 000	70 000
	7	2.8	3.5	8.5	8.5	0.7	0.9	0.15	380	125	39.0	13.0	12.4	62 000	73 000
<b>2.5</b>	5	1.5	2.3	—	—	—	—	0.08	153	59.0	16.0	6.00	15.0	70 000	82 000
	6	1.8	2.6	7.1	7.1	0.5	0.8	0.08	209	73.0	21.0	7.50	14.2	65 000	76 000
	7	—	3	—	8.2	—	0.6	0.15	284	96.0	29.0	10.0	13.8	59 000	70 000
	7	2.5	3.5	8.5	8.5	0.7	0.9	0.15	284	96.0	29.0	10.0	13.8	59 000	70 000
	8	2.5	2.8	9.2	—	0.6	—	0.15	430	152	44.0	16.0	13.2	56 000	66 000
	8	2.8	4	9.5	9.5	0.7	0.9	0.15	550	174	56.0	18.0	11.5	56 000	66 000
	8	2.5	—	—	—	—	—	0.15	560	180	57.0	18.0	11.9	54 000	63 000
<b>3</b>	6	2	2.5	7.2	7.2	0.6	0.6	0.08	242	94.0	25.0	9.50	14.7	60 000	71 000
	7	2	3	8.1	8.1	0.5	0.8	0.1	390	130	40.0	13.0	13.0	58 000	68 000
	8	2.5	—	9.2	—	0.6	—	0.15	560	180	57.0	18.0	11.9	54 000	63 000
	8	3	4	9.5	9.5	0.7	0.9	0.15	560	180	57.0	18.0	11.9	54 000	63 000
	9	2.5	4	10.2	10.6	0.6	0.8	0.15	635	219	65.0	22.0	12.4	50 000	59 000
	9	3	5	10.5	10.5	0.7	1	0.15	635	219	65.0	22.0	12.4	50 000	59 000
	10	4	4	11.5	11.5	1	1	0.15	640	224	65.0	23.0	12.7	50 000	58 000
<b>4</b>	7	2	2.5	8.2	8.2	0.6	0.6	0.08	222	88.0	23.0	9.00	15.3	54 000	63 000
	8	2	3	9.2	9.2	0.6	0.6	0.08	395	140	40.0	14.0	13.9	52 000	61 000
	9	2.5	4	10.3	10.3	0.6	1	0.15	640	224	65.0	23.0	12.7	49 000	57 000
	10	3	4	11.2	11.6	0.6	0.8	0.15	650	235	66.0	24.0	13.3	46 000	55 000
	11	4	4	12.5	12.5	1	1	0.15	715	276	73.0	28.0	13.7	45 000	52 000
	12	4	4	13.5	13.5	1	1	0.2	970	360	99.0	36.0	12.8	43 000	51 000
	13	5	5	15	15	1	1	0.2	1 310	490	134	50.0	12.4	42 000	49 000
	16	5	5	—	—	—	—	0.3	1 760	680	179	69.0	12.4	37 000	44 000
<b>5</b>	8	2	2.5	9.2	9.2	0.6	0.6	0.08	217	91.0	22.0	9.50	15.8	49 000	57 000
	9	2.5	3	10.2	10.2	0.6	0.6	0.15	500	211	51.0	21.0	14.6	46 000	55 000
	10	3	4	11.2	11.6	0.6	0.8	0.15	715	276	73.0	28.0	13.7	45 000	52 000

1) Smallest allowable dimension for chamfer dimension  $r$ .



With flanged outer ring and double shield (FL...ZZ)

**Dynamic equivalent radial load**  
 $P_r = X F_r + Y F_a$

$\frac{f_0 \cdot F_a}{C_{or}}$	$e$	$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
		X	Y	X	Y
0.172	0.19				2.30
0.345	0.22				1.99
0.689	0.26				1.71
1.03	0.28				1.55
1.38	0.30	1	0	0.56	1.45
2.07	0.34				1.31
3.45	0.38				1.15
5.17	0.42				1.04
6.89	0.44				1.00

**Static equivalent radial load**

$P_{or} = 0.6 F_r + 0.5 F_a$

When  $P_{or} < F_r$  use  $P_{or} = F_r$

Bearing numbers						Abutment and fillet dimensions				Mass (approx.)	
open	with single shield	with double shield	unsealed type with flange	with flanged OR and single shield	with flanged OR and double shield	mm		$r_{as}$	g		
						min	max <sup>2)</sup>	max	open	with flange	
68/1.5	W68/1.5SA	SSA	FL68/1.5	FLW68/1.5SA	SSA	2.3	2.4	3.2	0.05	0.07	0.09
69/1.5A	W69/1.5ASA	SSA	FL69/1.5A	FLW69/1.5ASA	SSA	2.7	2.9	3.8	0.15	0.18	0.24
60/1.5	W60/1.5ZA	ZZA	FL60/1.5	FLW60/1.5ZA	ZZA	2.7	3.0	4.8	0.15	0.35	0.42
672	—	—	—	—	—	2.5	2.6	3.5	0.05	0.06	—
682	W682SA	SSA	FL682	FLW682SA	SSA	2.8	2.9	4.2	0.08	0.13	0.17
BC2-5	WBC2-5SA	SSA	—	—	—	2.8	2.9	4.2	0.10	0.16	—
692	W692SA	SSA	FL692	FLW692SA	SSA	3.2	3.3	4.8	0.15	0.31	0.38
BC2-6	—	—	FLBC2-6	—	—	3.2	3.3	4.8	0.15	0.32	0.38
BC2-7A	—	—	—	—	—	3.2	3.6	5.8	0.15	0.44	—
602	W602ZA	ZZA	FL602	FLW602ZA	ZZA	3.2	3.7	5.8	0.15	0.54	0.64
67/2.5	W67/2.5ZA	ZZA	—	—	—	3.1	3.3	4.4	0.08	0.11	—
68/2.5	W68/2.5ZA	ZZA	FL68/2.5	FLW68/2.5ZA	ZZA	3.1	3.6	4.8	0.08	0.22	0.26
—	WBC2.5-7ZA	ZZA	—	FLWBC2.5-7ZA	ZZA	3.7	4.0	5.8	0.15	0.6 <sup>3)</sup>	0.67 <sup>3)</sup>
69/2.5	W69/2.5SA	SSA	FL69/2.5	FLW69/2.5SA	SSA	3.7	4.0	5.8	0.15	0.43	0.53
BC2.5-8	WBC2.5-8ZA	ZZA	FLBC2.5-8	—	—	3.7	4.3	6.8	0.15	0.57	0.65
60/2.5	W60/2.5ZA	ZZA	FL60/2.5	FLW60/2.5ZA	ZZA	3.7	4.1	6.8	0.15	0.72	0.83
673	WA673SA	SSA	FL673	FLWA673SA	SSA	3.6	4.1	5.4	0.08	0.2	0.26
683	W683ZA	ZZA	FL683	FLW683ZA	ZZA	3.9	4.1	5.8	0.1	0.33	0.38
BC3-8	—	—	FLBC3-8	—	—	4.2	4.4	6.8	0.15	0.52	0.6
693	W693Z	ZZ	FL693	FLW693Z	ZZ	4.2	4.4	6.8	0.15	0.61	0.72
BC3-9	WBC3-9ZA	ZZA	FLBC3-9	FLAWBC3-9ZA	ZZA	4.2	5.0	7.8	0.15	0.71	0.79
603	W603Z	ZZ	FL603	FLW603Z	ZZ	4.2	5.0	7.8	0.15	0.92	1
623	623Z	ZZ	FL623	FL623Z	ZZ	4.2	5.2	8.8	0.15	1.6	1.8
674A	WA674ASA	SSA	FL674A	FLWA674ASA	SSA	4.6	5.0	6.4	0.08	0.28	0.35
BC4-8	WBC4-8Z	ZZ	FLBC4-8	FLWBC4-8Z	ZZ	4.8	5.0	6.8	0.08	0.38	0.46
684AX50	W684AX50Z	ZZ	FL684AX50	FLW684AX50Z	ZZ	5.0	5.2	7.8	0.1	0.67	0.76
BC4-10	WBC4-10Z	ZZ	FLBC4-10	FLAWBC4-10Z	ZZ	5.2	6.0	8.8	0.15	1	1.1
694	694Z	ZZ	FL694	FL694Z	ZZ	5.2	6.4	9.8	0.15	1.8	2
604	604Z	ZZ	FL604	FL604Z	ZZ	5.6	6.6	10.4	0.2	2.1	2.3
624	624Z	ZZ	FL624	FL624Z	ZZ	5.6	6.2	11.4	0.2	3.2	3.5
634	634Z	ZZ	—	—	—	6	7.6	14	0.3	5.1	—
675	WA675Z	ZZ	FL675	FLWA675Z	ZZ	5.6	6.0	7.4	0.08	0.32	0.4
BC5-9	WBC5-9Z	ZZ	FLBC5-9	FLWBC5-9Z	ZZ	5.2	6.1	7.8	0.15	0.55	0.63
BC5-10	WBC5-10Z	ZZ	FLBC5-10	FLAWBC5-10Z	ZZ	6.2	6.4	8.8	0.15	0.88	0.97

2) This dimension applies to sealed and shielded bearings. 3) Values for double shielded bearings shown.