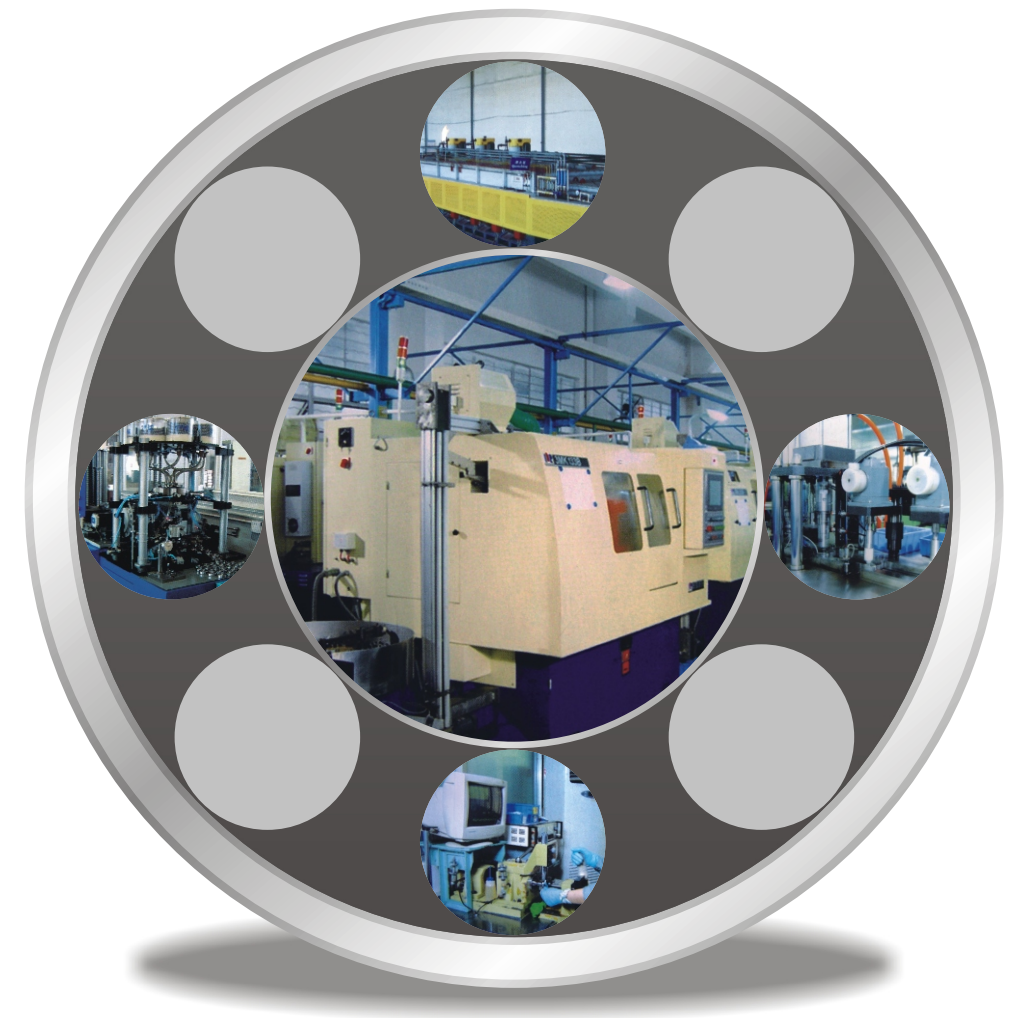


EMQ Deep
Groove Ball Bearings



XMEC BEARING & TECHNOLOGY CO.,LTD

Http: www.xmecbearings.com

E-mail: xmecbrg@263.net.cn jiangjg@263.net.cn



XMEC BEARING & TECHNOLOGY CO.,LTD

www.xmecbearings.com

About us

XMEC Bearing & Technology Co. Ltd. is specialized in manufacturing and distributing full range of high quality bearings for more than twenty years. Most of our customers are OEM customers with strict technical and quality requirement. We satisfy the needs of our customers from development, production, solutions and services.

The factories of XMEC for EMQ deep groove ball bearings are not only equipped with advanced grinding and assembly automatic lines, but also possess complete and perfect testing means. XMEC has passed the certification of ISO 9001:2008 quality management system.

Our EMQ deep groove ball bearings are widely equipped in washing machine motors, industrial sewing machine motors, small and medium-power motors, motorcycle motors and electric fan motors, and exported to Europe, USA and Japan etc.

XMEC



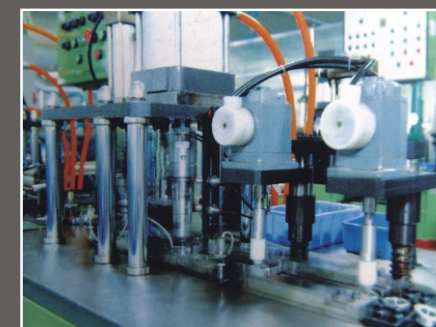
Mesh-belt furnace heat treatment production line



Bearing grinding and super-finishing automatic line



Automatic bearing rings sorting and assembly machine



Automatic bearing grease filling, seal pressing machine



Computer-controlled spectrum analyzer for measuring bearing vibration



VIBRATION AND NOISE

TOLERANCE DATA FOR VIBRATION OF SINGLE BEARING

Tolerance in $\mu\text{m/s}$

d mm	V			V ₁			V ₂			V ₃			V ₄		
	Low Brand	Medium Brand	High Brand	Low Brand	Medium Brand	High Brand	Low Brand	Medium Brand	High Brand	Low Brand	Medium Brand	High Brand	Low Brand	Medium Brand	High Brand
3,4	80	44	44	60	35	32	48	26	22	31	16	15	28	10	10
5,6	110	72	60	74	48	40	58	36	30	35	21	18	32	11	11
7,8,9	130	96	80	92	66	54	72	48	40	44	28	24	38	12	12
10,12	160	120	100	120	80	70	90	60	50	55	35	30	45	14	15
15	210	150	120	150	100	85	110	78	60	65	46	35	52	18	18
17	210	150	120	150	100	85	110	78	60	65	46	35	52	25	25
20	260	190	150	180	125	100	130	100	75	80	60	45	60	25	25
22,25	260	190	150	180	125	100	130	100	75	80	60	45	60	30	32
28	260	190	150	180	125	100	130	100	75	80	60	45	60	35	40
30,32	300	240	190	200	150	130	150	120	100	90	75	60	70	35	40
35	300	240	190	200	150	130	150	120	100	90	75	60	70	42	45
40	360	300	260	240	180	160	180	150	130	110	90	80	82	50	50
45	360	300	260	240	180	160	180	150	130	110	90	80	82	60	60
50	420	320	320	280	200	200	210	160	160	125	100	100	95	70	70
55	420	360	360	280	220	200	210	180	180	125	110	110	95	70	70
60	480	360	440	320	220	240	240	180	200	145	110	130	100	80	80

MAXIMUM VIBRATION ACCELERATION OF SINGLE BEARING

Tolerance in dB

d mm	Diameter Series (0)				Diameter Series (2)					Diameter Series (3)				
	Z	Z ₁	Z ₂	Z ₃	Z	Z ₁	Z ₂	Z ₃	Z ₄	Z	Z ₁	Z ₂	Z ₃	Z ₄
3	35	34	32	28	36	35	32	30	-	37	36	33	31	-
4	35	34	32	28	36	35	32	30	-	37	36	33	31	-
5	37	36	34	30	38	37	34	32	-	39	37	35	33	-
6	37	36	34	30	38	37	34	32	-	39	37	35	33	-
7	39	38	35	31	40	38	36	34	-	-	-	-	-	-
8	39	38	35	31	40	38	36	34	-	-	-	-	-	-
9	41	40	36	32	42	40	37	35	-	-	-	-	-	-
10	43	42	38	33	44	42	39	35	30	46	44	40	37	32
12	44	43	39	34	45	43	39	35	30	47	45	40	37	32
15	45	44	40	35	46	44	41	36	31	48	46	42	38	33
17	46	44	40	35	47	45	41	36	31	49	47	42	38	33
20	47	45	41	36	48	46	42	38	33	50	48	43	39	34
22	47	45	41	36	48	46	42	38	33	50	48	43	39	34
25	48	46	42	38	49	47	43	40	36	51	49	44	41	37
28	49	47	43	39	50	48	44	41	37	52	50	45	42	38
30	49	47	43	39	50	48	44	41	37	52	50	45	42	38
32	50	48	44	40	51	49	45	42	38	53	51	46	43	39
35	51	49	45	41	52	50	46	43	39	54	52	47	44	40
40	53	51	46	42	54	52	47	44	40	56	54	49	45	41
45	55	53	48	45	56	54	49	46	43	58	56	51	47	44
50	57	54	50	47	58	55	51	48	45	60	57	53	49	46
55	59	56	52	49	60	57	53	50	47	62	59	54	51	48
60	61	58	54	51	62	59	54	51	48	64	61	56	53	50



CLEARANCE

CLEARANCE

In accordance with the standard of ISO 5753, The radial Clearance can be divided into five groups. Radial Clearance Value without load See Table 6

Table 6

μm

Bore diameter d (mm)		C ₂ Group 2		0 Standard group		C ₃ Group 3		C ₄ Group 4		C ₅ Group 5	
Over	To	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
2.5	6	0	7	2	13	8	23	-	-	-	-
6	10	0	7	2	13	8	23	14	29	20	37
10	15	0	9	3	18	11	25	18	33	25	45
18	24	0	10	5	20	13	28	20	36	28	48
24	30	1	11	5	20	13	28	23	41	30	53
30	40	1	11	6	20	15	33	28	46	40	64
40	50	1	11	6	23	18	36	30	51	45	73
50	65	1	15	8	28	23	43	38	61	55	90



GREASE

The Grease No and function

Manufacture	Type	Thickener	Basic oil	Working temperature	Characteristic	Basic oil viscosity 40 °C	Density
Kyodo yushi	Multemp SRL	Lisoap reunites	Ester	-50~+150°C	Low noise, longlif, low torque	26cst	250
	Multemp Ps2	Lithium	Diester	-50~+130°C	Low temperature, low torque	15.3cst	275
	Multemp SB-M	Double ploy-urea	Synthetic oil	-50~+200°C	High temperature high speed	26cst	218
	Multemp ET-K	Poly-urea	Aether oil	-40~+200°C	High temperature high speed	95.1cst	300
	RAREMAX SUPER	Double urea	Mineral oil	-50~+200°C	High temperature, long life, low torque	95.9cst	260
Shell	Alvania RLQ2	Lithium	Mineral	-25~+120°C	High speed and low noise	75cst	266
	ALVANIA HVQ	Lithium	Syntetic oil	-50~+140°C	Low noise, long life, low torque	26cst	255
	Alvania RL Grease 2#	Lithium	Mineral	-20~+120°C	Antioxidant,antiwear, corrosion-resistant	75cst	275
	Stamina Grease Ri2	Poly-urea	Mineral	-20~+200°C	High temperature resistant, waterproof, anti-corrosion	25cst	270
Caltex	Chevron SRI-2	Poly-urea	Mineral	-30~+150°C	High temperature high speed	95cst	293
Kluber	Asonic GHY72	Polyhamstoff	Ester mineral	-40~+180°C	High temperature low torque	70cst	250-280
	Asonic HQ72-102	Poly-urea	Ester	-40~+180°C	High temperature low noise	100cst	250-280
	Asonic Q74-73	Poly-urea	Ester	-40~+165°C	High speed low noise	67.5cst	
	Quiet BQ72-72	Poly-urea	Ester	-45~+180°C	High temperature low noise	70cst	220
Exxon	LDS18 SPECIALA	Poly-urea	Ester	-50~+120°C	High speed low noise	15cst	
	Ployrex EM	Poly-urea	Mineral	-40~+177°C	Low volatilization	115cst	305
Great Wall	Low noise	Lithium	Mineral	-20~+120°C	Low-noise, low vibration	160cst	281
	BHP	Lithium	Mineral	-20~+160°C	High temperature low noise	140cst	278
	BLE	Double urea	Mineral	-35~+200°C	High temperature, long life, low-noise	120cst	280
	WTH	Double urea	Synthetic oil	-50~+200°C	High temperature, long life, low-noise	70cst	255



STANDARD TOLERANCES FOR DEEP GROOVE BALL BEARINGS

According to dimension tolerances and runout accuracy, JUF deep groove ball bearings grades are as ABEC-1, ABEC-3, ABEC-5, ABEC-7, ABEC-1 is standard grade, while ABEC-3, ABEC-S much higher and ABEC-7 the highest.

These tolerance grades corresponds in respect to those of precision adopted by the International Standard Organization (ISO 492).

The grades corresponds as follows:

XMEC	ISO
ABEC -1	NORMAL CLASS
ABEC - 3	CLASS 6 (P6)
ABEC - 5	CLASS 5 (P5)



TOLERANCE CLASS ABEC-1

INNER RING

Tolerance in $\mu\text{m/s}$

d mm		Δdmp		$V_{dp}^{2)}$			V_{dmp}	K_{ra}	ΔBs		V_{bs}
				Diameter Series							
				9	0.1	2,3,4					
over	Incl.	High	Low	max.			max.	max.	High	Low	max.
¹⁾ 0.6	2.5	0	-8	10	8	6	6	10	0	-40	12
2.5	10	0	-8	10	8	6	6	10	0	-120	15
10	18	0	-8	10	8	6	6	10	0	-120	20
18	30	0	-10	13	10	8	8	13	0	-120	20
30	50	0	-12	15	12	9	9	15	0	-120	20
50	80	0	-15	19	19	11	11	20	0	-150	25

- 1) 0.6 is included.
- 2) No values for diameter series 7,8.

OUTER RING

Tolerance in $\mu\text{m/s}$

d mm		Δdmp		$V_{dp}^{2)4)}$				$V_{dmp}^{4)}$	K_{ea}	ΔCs		V_{cs}
				Open Bearings		Capped Bearings ²⁾³⁾						
				Diameter Series								
				9	0.1	2,3,4	2,3,4					
over	Incl.	High	Low	max.				max.	max.	High	Low	max.
¹⁾ 2.5	6	0	-8	10	8	6	10	6	15	Identical to ΔBs and V_{Bs} of inner ring of same bearing		
6	18	0	-8	10	8	6	10	6	15			
18	30	0	-9	12	9	7	12	7	15			
30	50	0	-11	14	11	8	16	8	20			
50	80	0	-13	16	13	10	20	10	25			
80	120	0	-15	19	19	11	26	11	35			
120	150	0	-18	23	23	14	30	14	40			

- 1) 2.5 is included.
- 2) No values for diameter series 7,8.
- 3) No values for diameter series 9,0,1.
- 4) Fit for before assembling and after disestablish of snap rings.

ABEC STANDARD BEARING TOLERANCES FOR INCH-DIMENSION BALL BEARINGS
(See corresponding metric grouping)



TOLERANCE CLASS ABEC-3

INNER RING

Tolerance in $\mu\text{m/s}$

d mm		Δdmp		$V_{dp}^{2)}$			V_{dmp}	K_{ra}	ΔBs		V_{bs}
				Diameter Series							
				9	0.1	2,3,4					
over	Incl.	High	Low	max.			max.	max.	High	Low	max.
¹⁾ 0.6	2.5	0	-7	9	7	5	5	5	0	-40	12
2.5	10	0	-7	9	7	5	5	6	0	-120	15
10	18	0	-7	9	7	5	5	7	0	-120	20
18	30	0	-8	10	8	6	6	8	0	-120	20
30	50	0	-10	13	10	8	8	10	0	-120	20
50	80	0	-12	15	15	9	9	10	0	-150	25

- 1) 0.6 is included.
- 2) No values for diameter series 7,8.

OUTER RING

Tolerance in $\mu\text{m/s}$

d mm		Δdmp		$V_{dp}^{2)4)}$				$V_{dmp}^{4)}$	K_{ea}	ΔCs		V_{cs}
				Open Bearings		Capped Bearings ²⁾³⁾						
				Diameter Series								
				9	0.1	2,3,4	2,3,4					
over	Incl.	High	Low	max.				max.	max.	High	Low	max.
¹⁾ 2.5	6	0	-7	9	7	5	9	5	8	Identical to ΔBs and V_{Bs} of inner ring of same bearing		
6	18	0	-7	9	7	5	9	5	8			
18	30	0	-8	10	8	6	10	6	9			
30	50	0	-9	11	9	7	13	7	110			
50	80	0	-11	14	11	8	16	8	13			
80	120	0	-13	16	16	10	20	10	18			
120	150	0	-15	19	19	11	25	11	20			

- 1) 2.5 is included.
- 2) No values for diameter series 7,8.
- 3) No values for diameter series 9.
- 4) Fit for before assembling and after disestablish of snap rings.



TOLERANCE CLASS ABEC-5

INNER RING

Tolerance in $\mu\text{m/s}$

d mm		Δdmp		$V_{dp}^{2)}$		V_{dmp}	K_{ia}	S_d	$S_{ia}^{3)}$	ΔBs		V_{bs}
				Diameter Series								
				9	0,1,2,3,4							
over	Incl.	High	Low	max.		max.	max.	max.	max.	High	Low	max.
¹⁾ 0.6	2.5	0	-5	5	4	3	4	7	7	0	-40	5
2.5	10	0	-5	5	4	3	4	7	7	0	-40	5
10	18	0	-5	5	4	3	4	7	7	0	-80	5
18	30	0	-6	6	5	3	4	8	8	0	-120	5
30	50	0	-8	8	6	4	5	8	8	0	-120	5
50	80	0	-9	9	7	5	5	8	8	0	-150	6

- 1) 0.6 is included.
- 2) No values for diameter series 7,8.
- 3) Fit for groove ball bearing only.

OUTER RING

Tolerance in $\mu\text{m/s}$

d mm		Δdmp		$V_{dp}^{2)}$		V_{dmp}	K_{ia}	S_d	$S_{ia}^{3)}$	ΔBs		V_{bs}
				Diameter Series								
				9	0,1,2,3,4							
over	Incl.	High	Low	max.		max.	max.	max.	max.	High	Low	max.
¹⁾ 2.5	6	0	-5	5	4	3	5	8	8	Identical to ΔBs of inner ring of same bearing		5
6	18	0	-5	5	4	3	5	8	8		5	
18	30	0	-6	6	5	3	6	8	8		5	
30	50	0	-7	7	5	4	7	8	8		5	
50	80	0	-9	9	7	5	8	8	10		6	
80	120	0	-10	10	8	5	10	9	11		8	
120	150	0	-11	11	8	6	11	10	13		8	

- 1) 2.5 is included.
- 2) No values for diameter series 7,8.
- 3) No values for shielded and sealed bearings.
- 4) No for flanged bearings
- 5) Fit for groove ball bearings

