

Bearing Reference data

Technical Information

Bearing Reference Data

GMT Model Size □ Bearing No.

Fixed Side (Standard)			Fixed Side (Standard)		
GMT model	Size	Ball bearing no.	GMT model	Size	Ball bearing no.
GAK06	06	706	GSW06	06	706
GAK08	08	708	GSW08	08	708
GAK10	10	7000	GSW10	10	7000
GAK12	12	7001	GSW12	12	7001
GAK15	15	7002	GSW15	15	7002
GAK20	20	7204	GSW20	20	7204
GAK25	25	7205	GSW25	25	7205
GBK10	10	7000	GSWE10	10	7000
GBK12	12	7001	GSWE12	12	7001
GBK15	15	7002	GSWE15	15	7002
GBK17	17	7203	GSWE20	20	7204
GBK20	20	7004	GSWE25	25	7205
GBK25	25	7205			
GBK30	30	7206	GRW06	06	706
GBK35	35	7207	GRW08	08	708
GBK40	40	7208	GRW10	10	7000
			GRW12	12	7001
GEK06	06	706	GRW15	15	7002
GEK08	08	708	GRW20	20	7204
GEK10	10	7000	GRW25	25	7205
GEK12	12	7001			
GEK15	15	7002			
GEK20	20	7204			
GFK06	06	706			
GFK08	08	708			
GFK10	10	7000			
GFK12	12	7001			
GFK15	15	7002			
GFK17	17	7203			
GFK20	20	7204			
GFK25	25	7205			
GFK30	30	7206			

Fixed Side (Heavy Loading)		
GMT model	Size	Ball bearing no.
GWFF17	17	17TAC47B
GWFF20	20	20TAC47B
GWFF25	25	25TAC62B
GWFF30	30	30TAC62B
GWFF35	35	35TAC72B
GWFF40	40	40TAC72B

Fixed Side (Economic)			Fixed Side (Economic)		
GMT model	Size	Ball bearing no.	GMT model	Size	Ball bearing no.
GAK06	06	606	GSW06	06	606
GAK08	08	608	GSW08	08	608
GAK10	10	6000	GSW10	10	6000
GAK12	12	6001	GSW12	12	6001
GAK15	15	6002	GSW15	15	6002
GAK20	20	6204	GSW20	20	6204
GBK10	10	6000	GSWE10	10	6000
GBK12	12	6001	GSWE12	12	6001
GBK15	15	6002	GSWE15	15	6002
GBK17	17	6203	GSWE20	20	6204
GBK20	20	6004			
GEK06	06	606	GRW06	06	606
GEK08	08	608	GRW08	08	608
GEK10	10	6000	GRW10	10	6000
GEK12	12	6001	GRW12	12	6001
GEK15	15	6002	GRW15	15	6002
GEK20	20	6204	GRW20	20	6204
GFK06	06	606	GRWE06	06	606
GFK08	08	608	GRWE08	08	608
GFK10	10	6000	GRWE10	10	6000
GFK12	12	6001	GRWE12	12	6001
GFK15	15	6002	GRWE15	15	6002
GFK17	17	6203	GRWE20	20	6204
GFK20	20	6204			

Support Side (Standard)					
GMT model	Size	Ball bearing no.	GMT model	Size	Ball bearing no.
GAF06	06	606	GFF06	06	606
GAF08	06	606	GFF08	06	606
GAF10	08	608	GFF10	08	608
GAF12	10	6000	GFF12	10	6000
GAF15	15	6002	GFF15	15	6002
GAF20	20	6204	GFF17	17	6203
GAF25	25	6205	GFF20	20	6204
			GFF25	25	6205
			GFF30	30	6206
GBF10	8	608	GTN06	06	606
GBF12	10	6000	GTN08	06	606
GBF15	15	6002	GTN10	08	608
GBF17	17	6203	GTN12	10	6000
GBF20	20	6004	GTN15	15	6002
GBF25	25	6205	GTN20	20	6204
GBF30	30	6206	GTN25	25	6205
GBF35	35	6207			
GBF40	40	6208			
GEF06	06	606	GTR06	06	606
GEF08	06	606	GTR08	06	606
GEF10	08	608	GTR10	08	608
GEF12	10	6000	GTR12	10	6000
GEF15	15	6002	GTR15	15	6002
GEF20	20	6204	GTR20	20	6204
			GTR25	25	6205

Angular Contact Ball Bearing Types

Code	Contact Angle
C	15°
AC	25°
A	30°
B	40°
TAC	60°

Ball Bearing Accuracy Reference

Code	Accuracy Grade	Description
P2	★★★★★★	ISO Grade 2
P3	★★★★★	Special Accuracy (Dimension Accuracy ISO Grade 4 Rotation Accuracy ISO Grade 2)
P4	★★★★	ISO Grade 4
P5	★★★	ISO Grade 5
P6	★★	ISO Grade 6
P0	★	ISO Grade 0

Ballscrew Grade and Recommended Bearing Reference

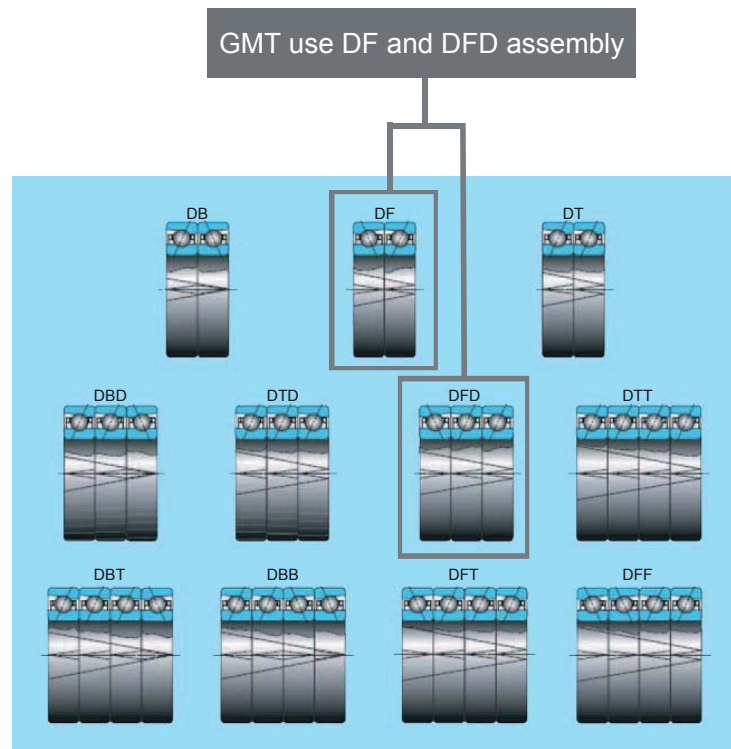
Ball Screw Grade	Recommended Pre-Loaded	Recommended Ball Bearing Grade
C0	Medium / Heavy Pre-Loaded	P2 ~ P3
C1	Medium / Heavy Pre-Loaded	P3 ~ P4
C3	Medium / Heavy Pre-Loaded	P4 ~ P5
C5	Light / Medium Pre-Loaded	P5、P6、P0
C7	Light Pre-Loaded	P0
C7 C9 C10	Light Pre-Loaded	Code 6 series

Angular Contact Ball Bearing Assembly Types

Type	Number of Bearings	Description	Type	Number of Bearings	Description
DF	2	Face to Face	DTT	4	4-in-one kit
DB	2	Back to Back	DBT	4	
DT	2	Parallel	DBB	4	
DBD	3	3-in-one kit	DFT	4	
DTD	3		DFF	4	
DFD	3				

Angular Contact Ball Bearing Assembly Characters :

1. GMT uses DF and DFD Assembly Types. All bearing assemblies are preloaded precisely to Customer's specifications before shipping. These bearing assemblies are suitable for negative clearance applications. It is not necessary to adjust the preload on customer's site.
2. DF (Face to Face) assembly is suitable for single loading direction applications due to its feature to restrain increased internal loading occurred from mis-assembly as an advantage however the conversed concern is its bad loading ability in the very short time.
3. DB (Back to Back) assembly is able to bear radial loading and two-direction of axial loading to produce high rigidity in the very short time. But the earlier peeled off problem to the bearings will be happened in case of couple situations such as failed accuracy of support unit and mis-installation.
4. 3-in-one kit (DBD DTD DFD) assembly is able to bear radial and two-direction of axial loading however due to disproportionate pre-loaded spreaded the single bearing is normally bear double loading compared to the other paired-bearing during high speed rotation and cause damages to the bearing. Thus this assembly is not suggested to be applied for high-speed rotation.



Angular Contact Bearing applied to Fixed Side - RPM Pre-loaded Reference

Technical Information

Rated RPM Reference Data

Japanese Series Ball Bearing (DF DB Assembly) Rated RPM Reference										
Ball Bearing No.	Ball Bearing Grade	Size	Angular A (30°) Rated RPM	Angular B (40°) Rated RPM	Light Preload (L) Angular Contact A Rated RPM	Light Preload (L) Angular Contact B Rated RPM	Light Preload (M) Angular Contact A Rated RPM	Light Preload (M) Angular Contact B Rated RPM	Light Preload (H) Angular Contact A Rated RPM	Light Preload (H) Angular Contact B Rated RPM
706	P5	6	5800		46400		37700		31900	
708	P5	8	44000		35200		28600		24200	
7000	P5	10	36800	25300	29440	20240	23920	16445	20240	13915
7001	P5	12	32200	23000	25760	18400	20930	14950	17710	12650
7002	P5	15	27600	19550	22080	15640	17940	12708	15180	10753
7203	P5	17	23000	16100	18400	12880	14950	10465	12650	8855
7004	P5	20	20700	14950	16560	11960	13455	9718	11385	8223
7204	P5	20	19550	13800	15640	11040	12708	8970	10753	7590
7205	P5	25	17250	11500	13800	9200	11213	7475	9488	6325
7206	P5	30	13800	9775	11040	7820	8970	6354	7590	5376
7207	P5	35	12075	8050	9660	6440	7849	5233	6641	4428
7208	P5	40	11040	7475	8832	5980	7176	4859	6072	4111

Ball Bearing No.	Ball Bearing Grade	Size	Angular A (30°) Rated RPM	Angular B (40°) Rated RPM	Light Preload (L) Angular Contact A Rated RPM	Light Preload (L) Angular Contact B Rated RPM	Light Preload (M) Angular Contact A Rated RPM	Light Preload (M) Angular Contact B Rated RPM	Light Preload (H) Angular Contact A Rated RPM	Light Preload (H) Angular Contact B Rated RPM
7000	P0	10	32000	22000	25600	17600	20800	14300	17600	12100
7001	P0	12	28000	20000	22400	16000	18200	13000	15400	11000
7002	P0	15	24000	17000	19200	13600	15600	11050	13200	9350
7203	P0	17	20000	14000	16000	11200	13000	9100	11000	7700
7004	P0	20	18000	13000	14400	10400	11700	8450	9900	7150
7204	P0	20	17000	12000	13600	9600	11050	7800	9350	6600
7205	P0	25	15000	10000	12000	8000	9750	6500	8250	5500
7206	P0	30	12000	8500	9600	6800	7800	5525	6600	4675
7207	P0	35	10500	7000	8400	5600	6825	4550	5775	3850
7208	P0	40	9600	6500	7680	5200	6240	4225	5280	3575

Japanese Series Heavy Loading Angular Bearing (DF, DFD Assembly) Rated RPM Reference				
Ball Bearing No.	Size	TAC angle(60°) Rated RPM	DF Assembly TAC Angle Rated RPM	DFD Assembly TAC Angle Rated RPM
17TAC47B	17	6000	5100	4800
20TAC47B	20	6000	5100	4800
25TAC62B	25	4500	3825	3600
30TAC62B	30	4300	3655	3440
35TAC72B	35	3600	3060	2880
40TAC72B	40	3600	3060	2880

Taiwan Series Ball Bearing (Nominal) Rotation Speed										
Ball Bearing No.	Ball Bearing Grade	Size	Angular AC(25°) Rated RPM	Angular C (15°) Rated RPM	Light Preload (L) Angular Contact AC (25°) Rated RPM	Light Preload (L) Angular Contact C (15°) Rated RPM	Light Preload (M) Angular Contact AC (25°) Rated RPM	Light Preload (M) Angular Contact C (15°) Rated RPM	Light Preload (H) Angular Contact AC (25°) Rated RPM	Light Preload (H) Angular Contact C (15°) Rated RPM
708	P5	08	31500	35000	20475	22750	17325	19250	14175	15750
7000	P5	10	33500	30000	21775	19500	18425	16500	15075	13500
7001	P5	12	30000	28000	19500	18200	16500	15400	13500	12600
7002	P5	15	25000	22500	16250	14625	13750	12375	11250	10125
7203	P5	17	20000	19000	13000	12350	11000	10450	9000	8550
7004	P5	20	19000	17000	12350	11050	10450	9350	8550	7650
7204	P5	20	17000	15000	11050	9750	9350	8250	7650	6750
7205	P5	25	15000	13000	9750	8450	8250	7150	6750	5850
7206	P5	30	12000	10000	7800	6500	6600	5500	5400	4500
7207	P5	35	8500	9000	5525	5850	4675	4950	3825	4050
7208	P5	40	7500	8500	4875	5525	4125	4675	3375	3825

Ball Bearing No.	Ball Bearing Grade	Size	Angular A(30°) Rated RPM	Light Preload (L) Angular Contact A (30°) Rated RPM	Medium Preload (M) Angular Contact A (30°) Rated RPM	Heavy Preload (H) Angular Contact A (30°) Rated RPM
7000	P5	10	48200	31330	26510	21690
7001	P5	12	26000	16900	14300	11700
7002	P5	15	23000	14950	12650	10350

Taiwanese Series Heavy Loading Angular Bearing (DF, DFD Assembly) Rated RPM Reference				
Ball Bearing No.	Size	TAC angle(60°) Rated RPM	DF Assembly TAC Angle Rated RPM	DFD Assembly TAC Angle Rated RPM
17TAC47B	17	5400	4590	4320
20TAC47B	20	5400	4590	4320
25TAC62B	25	4050	3443	3240
30TAC62B	30	3870	3290	3096
35TAC72B	35	3240	2754	2592
40TAC72B	40	3240	2754	2592

Rated Loading Reference data

Technical Information

Rated Loading Reference Data

Please refer to the motor driver and ballscrew grade before choosing a proper fixed side model.

Angular Contact Bearing (DF, DB, DT Assembly) Rated Loading Reference

Japanese Series Balling Bearing				Taiwan Series Ball Bearing			
Model	Contact angle	Dynamic load in $\square\square$	Static load in $\square\square$	Model	Contact angle	Dynamic load in $\square\square$	Static load in $\square\square$
$\square\square06A$	30°	3.2	1.0	$\square\square00C$	1°	4.6	3.20
$\square\square07A$	30°	4.2	2.0	$\square\square000C$	1°	6.4	4.0
$\square\square000A$	30°	1.10	4.6	$\square\square001C$	1°	1.10	6.00
$\square\square001A$	30°	1.4	4.2	$\square\square002C$	1°	1.4	6.60
$\square\square002A$	30°	1.3	6.30	$\square\square003C$	1°	1.30	14.0
$\square\square003A$	30°	16.36	10.0	$\square\square004C$	1°	1.4	12.60
$\square\square004A$	30°	16.6	12.20	$\square\square004C$	1°	21.22	11.20
$\square\square004A$	30°	22.03	11.10	$\square\square020C$	1°	21.21	26.20
$\square\square20A$	30°	24.4	11.0	$\square\square206C$	1°	31.0	31.60
$\square\square206A$	30°	34.0	21.20	$\square\square20C$	1°	41.0	41.0
$\square\square20A$	30°	4.6	3.00	$\square\square20C$	1°	11.24	61.0
$\square\square20A$	30°	4.2	46.60				
Model	Contact angle	Dynamic load in $\square\square$	Static load in $\square\square$	Model	Contact angle	Dynamic load in $\square\square$	Static load in $\square\square$
$\square\square000B$	40°	1.0	4.40	$\square\square00AC$	2°	4.3	3.00
$\square\square001B$	40°	1.10	1.00	$\square\square000AC$	2°	6.1	4.60
$\square\square002B$	40°	1.0	1.0	$\square\square001AC$	2°	1.1	1.60
$\square\square003B$	40°	16.20	11.10	$\square\square002AC$	2°	1.26	6.20
$\square\square004B$	40°	11.20	11.10	$\square\square003AC$	2°	1.6	14.20
$\square\square004B$	40°	21.0	11.30	$\square\square004AC$	2°	14.0	12.00
$\square\square20B$	40°	24.00	11.0	$\square\square004AC$	2°	20.41	11.40
$\square\square206B$	40°	33.30	21.10	$\square\square20AC$	2°	26.0	21.00
$\square\square20B$	40°	1.3	4.10	$\square\square206AC$	2°	36.12	36.00
$\square\square20B$	40°	1.0	6.0	$\square\square20AC$	2°	31.6	43.0
				$\square\square20AC$	2°	12.6	11.00
Model	Contact angle	Dynamic load in $\square\square$	Static load in $\square\square$	Model	Contact angle	Dynamic load in $\square\square$	Static load in $\square\square$
$\square\square000A$	30°	1.2	4.21				
$\square\square001A$	30°	1.1	4.1				
$\square\square002A$	30°	1.4	1.6				

Heavy Loading Angular Bearing (DF, DB, DT Assembly) Rated Loading Reference

Japanese Series Balling Bearing					
Model	Contact angle	DF Dynamic load in $\square\square$	DF Static load in $\square\square$	DFD Dynamic load in $\square\square$	DFD Static load in $\square\square$
1TAC4B	60°	3.31	1.40	1.4	1.10
20TAC4B	60°	34.3	1.00	4.64	2.0
2TAC62B	60°	1.0	1.30	6.40	136.0
30TAC62B	60°	46.33	1.0	61.4	121.0
3TAC12B	60°	1.24	11.0	13.32	111.20
40TAC12B	60°	1.46	110.00	10.0	161.00
Taiwan Series Ball Bearing					
Model	Contact angle	DF Dynamic load in $\square\square$	DF Static load in $\square\square$	DFD Dynamic load in $\square\square$	DFD Static load in $\square\square$
1TAC4B	60°	34.3	1.4	46.22	1.00
20TAC4B	60°	31.26	1.0	41.4	1.00
2TAC62B	60°	46.1	1.3	61.2	124.0
30TAC62B	60°	42.12	1.0	111.0	111.00
3TAC12B	60°	1.22	10.0	66.6	162.00
40TAC12B	60°	4.60	100	64.0	110.00

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Rectangle Design

GMT	TH□	□□□
GA□06	A□06	□
GA□0□	A□0□	□
GA□10	A□10	□ B□10-01A
GA□12	A□12	□ B□12-01A
GA□1□	A□1□	□ B□1□-01A
GA□20	A□20	□ B□20-01A
GA□2□	A□2□	□ B□2□-01A

Protruding Design

GMT	TH□	□□□
G□□06	□□06	□ B□06-01A
G□□0□	□□0□	□ B□0□-01A
G□□10	□□10	□
G□□12	□□12	□
G□□1□	□□1□	□
G□□20	□□20	□

Rectangle Design

GMT		□□R□DA
G□□06	G□□□06	B□□-6
G□□0□	G□□□0□	B□□-□
G□□10	G□□□10	B□□-10
G□□12	G□□□12	B□□-12
G□□1□	G□□□1□	B□□-1□
G□□20	G□□□20	B□□-20
G□□2□	G□□□2□	B□□-2□

Two-□ay Mounting Design

GMT	TH□
GB□10	B□10
GB□12	B□12
GB□1□	B□1□
GB□1□	B□1□
GB□20	B□20
GB□2□	B□2□
GB□30	B□30
GB□3□	B□3□
GB□40	B□40

Round Design

GMT	TH□	□□□
GF□06	F□06	□ B□06-01A
GF□0□	F□0□	□ B□0□-01A
GF□10	F□10	□ B□10-01A
GF□12	F□12	□ B□12-01A
GF□1□	F□1□	□ B□1□-01A
GF□1□	F□1□	□ B□1□-01A
GF□20	F□20	□ B□20-01A
GF□2□	F□2□	□ B□2□-01A
GF□30	F□30	□

Round Design

GMT		□□R□DA
GR□06	GR□□06	B□M-6
GR□0□	GR□□0□	B□M-□
GR□10	GR□□10	B□M-10
GR□12	GR□□12	B□M-12
GR□1□	GR□□1□	B□M-1□
GR□20	GR□□20	B□M-20
GR□2□	GR□□2□	B□M-2□

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Rectangle Design

GMT	TH□	□□□
GAF06	AF06	□
GAF0□	AF0□	□
GAF10	AF10	□ B□10□-01
GAF12	AF12	□ B□12□-01
GAF1□	AF1□	□ B□1□□-01
GAF20	AF20	□ B□20□-01
GAF2□	AF2□	□ B□2□□-01

Protruding Design

GMT	TH□	□□□
G□F06	□F06	□
G□F0□	□F0□	□ B□0□□-01
G□F10	□F10	□
G□F12	□F12	□
G□F1□	□F1□	□
G□F20	□F20	□

Rectangle Design

GMT		□□R□DA
G□□06	GT□06	B□□-6□
G□□0□	GT□0□	B□□-□□
G□□10	GT□10	B□□-10□
G□□12	GT□12	B□□-12□
G□□1□	GT□1□	B□□-1□□
G□□20	GT□20	B□□-20□
G□□2□	GT□2□	B□□-2□□

Two-□ay Mounting Design

GMT	TH□
GBF10	BF10
GBF12	BF12
GBF1□	BF1□
GBF1□	BF1□
GBF20	BF20
GBF2□	BF2□
GBF30	BF30
GBF3□	BF3□
GBF40	BF40

Round Design

GMT	TH□	□□□
GFF06	FF06	□
GFF0□	FF0□	□
GFF10	FF10	□
GFF12	FF12	□
GFF1□	FF1□	□
GFF20	FF20	□
GFF2□	FF2□	□
GFF30	FF30	□

Round Design

GMT		□□R□DA
G□R06	GTR06	B□M-6□
G□R0□	GTR0□	B□M-□□
G□R10	GTR10	B□M-10□
G□R12	GTR12	B□M-12□
G□R1□	GTR1□	B□M-1□□
G□R20	GTR20	B□M-20□
G□R2□	GTR2□	B□M-2□□