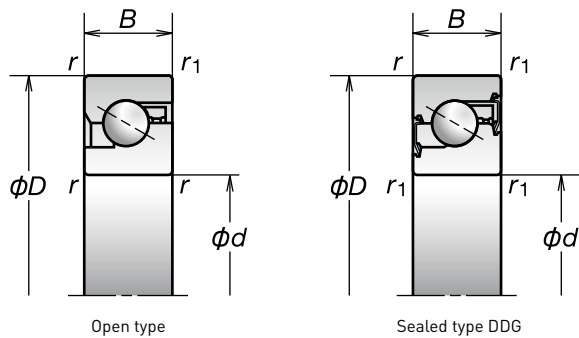


Ball Screw Support Bearings for High-Rigidity

Bore Diameter 15-60 mm



(Open type)

Bearing Designation	Boundary Dimensions (mm)					Abutment and Fillet Dimensions (mm)				Recommended Grease Quantities (cc)	Contact angle (degree)	Limiting Speeds ⁽²⁾ (min ⁻¹)		Mass (kg) (approx.)
	d	D	B	r (min.)	r ₁ (min.)	D _b (max.)	d _a (min.)	D _a (max.)	d _b (min.)			Grease	Oil	
15TAC47C	15	47	15	1	0.6	42	19.5	41	19.5	2.2	60	6 900	9 200	0.146
17TAC47C	17	47	15	1	0.6	42	23	41	23	2.2	60	6 900	9 200	0.140
20TAC47C	20	47	15	1	0.6	42	25	41	25	2.2	60	6 900	9 200	0.135
25TAC62C	25	62	15	1	0.6	57	31	56	31	3.0	60	5 200	6 900	0.252
30TAC62C	30	62	15	1	0.6	57	36	56	36	3.2	60	4 900	6 400	0.224
30TAC72C	30	72	19	1	0.6	67	36	66	36	3.8	60	4 100	5 800	0.427
35TAC72C	35	72	15	1	0.6	67	42	66	42	3.8	60	4 100	5 800	0.310
40TAC72C	40	72	15	1	0.6	67	47	66	47	3.9	60	4 100	5 500	0.275
40TAC90C	40	90	20	1	0.6	85	48	84	48	8.8	60	3 500	4 600	0.674
45TAC75C	45	75	15	1	0.6	68	54	67	54	4.2	60	3 700	4 900	0.270
45TAC100C	45	100	20	1	0.6	93	55	92	55	9.7	60	3 000	4 100	0.842
50TAC100C	50	100	20	1	0.6	92	60	91	60	10.2	60	3 000	3 900	0.778
55TAC100C	55	100	20	1	0.6	92	63	91	63	10.2	60	3 000	3 900	0.714
55TAC120C	55	120	20	1	0.6	112	63	111	63	12	60	2 500	3 500	1.23
60TAC120C	60	120	20	1	0.6	112	70	111	70	12	60	2 500	3 500	1.16

(Sealed type)

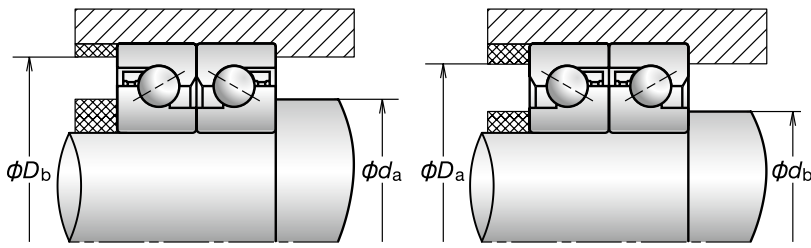
Bearing Designation ⁽¹⁾	Boundary Dimensions (mm)					Abutment and Fillet Dimensions (mm)				Contact angle (degree)	Limiting Speeds ⁽²⁾ (min ⁻¹)	Mass (kg) (approx.)
	d	D	B	r (min.)	r ₁ (min.)	D _b (max.)	d _a (min.)	D _a (max.)	d _b (min.)			
* 15TAC47CDDG	15	47	15	1	0.6	42	19.5	41	19.5	60	6 900	0.146
* 17TAC47CDDG	17	47	15	1	0.6	42	22	41	22	60	6 900	0.140
* 20TAC47CDDG	20	47	15	1	0.6	42	25	41	25	60	6 900	0.135
* 25TAC62CDDG	25	62	15	1	0.6	57	30	56	30	60	5 200	0.252
30TAC62CDDG	30	62	15	1	0.6	57	36	56	36	60	4 900	0.224
35TAC72CDDG	35	72	15	1	0.6	67	41	66	41	60	4 100	0.310
40TAC72CDDG	40	72	15	1	0.6	67	46	66	46	60	4 100	0.275
40TAC90CDDG	40	90	20	1	0.6	85	47	84	47	60	3 500	0.674
45TAC100CDDG	45	100	20	1	0.6	93	54	92	54	60	3 000	0.842
50TAC100CDDG	50	100	20	1	0.6	92	59	91	59	60	3 000	0.778
55TAC100CDDG	55	100	20	1	0.6	92	63	91	63	60	3 000	0.714

(1) An asterisk (*) indicates bearings that are also available as non-contact sealed bearings.

(2) Limiting speeds are based on high preload (H). The values shown are valid for all types of bearing arrangement.

(3) To calculate permissible axial load, multiply limiting axial load by 0.7.

(4) The starting torque values in the table apply to grease lubricated bearings. Contact seal torque is not included. For oil lubricated bearings, multiply by 1.4.



Calculation of preload, axial rigidity and starting torque for bearing arrangements
Multiply by factors in table B.

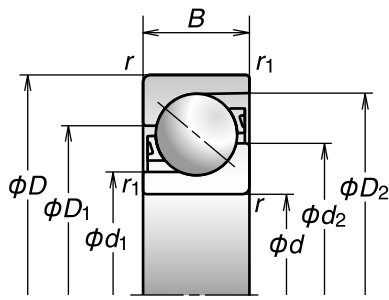
	DFD ∅∅∅	DFF ∅∅∅∅	DFT ∅∅∅∅
	DBD ∅∅∅	DBB ∅∅∅∅	DBT ∅∅∅∅
Preload factor	1.36	2.0	1.57
Axial rigidity	1.49	2.0	1.89
Starting torque	1.35	2.0	1.55

Preload (DB and DF Arrangement) (N)	Axial Rigidity (DB and DF Arrangement) (N/μm)	Starting Torque (DB and DF Arrangement) ⁽⁴⁾ (N·m) (reference)	Basic dynamic load rating Ca by number of rows sustaining Fa			Limiting static axial load by number of rows sustaining Fa ⁽³⁾		
			1 row (kN)	2 rows (kN)	3 rows (kN)	1 row (kN)	2 rows (kN)	3 rows (kN)
H	H	H						
1 450	630	0.09	23.0	37.5	49.5	26.6	53.0	79.5
1 450	630	0.09	23.0	37.5	49.5	26.6	53.0	79.5
1 450	630	0.09	23.0	37.5	49.5	26.6	53.0	79.5
2 280	850	0.15	29.9	48.5	64.5	40.5	81.5	122
2 400	890	0.16	30.5	50.0	66.0	43.0	86.0	129
2 750	1 030	0.18	32.5	53.0	70.5	50.0	100	150
2 750	1 030	0.18	32.5	53.0	70.5	50.0	100	150
2 860	1 080	0.19	33.5	54.0	72.0	52.0	104	157
3 450	1 150	0.29	62.0	101	134	89.5	179	269
3 100	1 170	0.20	34.5	56.0	74.5	57.0	114	170
4 440	1 340	0.40	64.5	105	140	99.0	198	298
4 650	1 410	0.42	66.0	107	142	104	208	310
4 650	1 410	0.42	66.0	107	142	104	208	310
5 450	1 660	0.49	70.5	115	153	123	246	370
5 450	1 660	0.49	70.5	115	153	123	246	370

Preload (DB and DF Arrangement) (N)	Axial Rigidity (DB and DF Arrangement) (N/μm)	Starting Torque (DB and DF Arrangement) ⁽⁴⁾ (N·m) (reference)	Basic dynamic load rating Ca by number of rows sustaining Fa			Limiting static axial load by number of rows sustaining Fa ⁽³⁾		
			1 row (kN)	2 rows (kN)	3 rows (kN)	1 row (kN)	2 rows (kN)	3 rows (kN)
H	H	H						
1 450	630	0.09	23.0	37.5	49.5	26.6	53.0	79.5
1 450	630	0.09	23.0	37.5	49.5	26.6	53.0	79.5
1 450	630	0.09	23.0	37.5	49.5	26.6	53.0	79.5
2 280	850	0.15	29.9	48.5	64.5	40.5	81.5	122
2 400	890	0.16	30.5	50.0	66.0	43.0	86.0	129
2 750	1 030	0.18	32.5	53.0	70.5	50.0	100	150
2 860	1 080	0.19	33.5	54.0	72.0	52.0	104	157
3 450	1 150	0.29	62.0	101	134	89.5	179	269
4 440	1 340	0.40	64.5	105	140	99.0	198	298
4 650	1 410	0.42	66.0	107	142	104	208	310
4 650	1 410	0.42	66.0	107	142	104	208	310

Ball Screw Support Bearings for High-Load Drive Applications

Bore Diameter 15-180 mm



Bearing Designation ⁽¹⁾	Boundary Dimensions (mm)					Reference Dimensions (mm)				Recommended Grease Quantities (cc/row)	Contact angle (degree)	Limiting Speeds ⁽²⁾ (min ⁻¹)		Mass (kg) (approx.)
	d	D	B	r (min.)	r ₁ (min.)	d ₁	d ₂	D ₁	D ₂			Grease	Oil	
15TAC02D	15	35	11	0.6	0.3	19.1	24.5	26	31.9	1	55	12 000	14 800	0.047
20TAC03D	20	52	15	1.1	0.6	27.2	35.3	37.5	46.1	2.7	55	8 300	10 300	0.155
25TAC02D	25	52	15	1	0.6	30.8	38.1	39.6	47.3	3	55	7 700	9 700	0.137
TAC35-3	35	90	23	1.5	1	50.4	64.2	67.1	81.7	14	55	4 600	5 700	0.712
40TAC03D	40	90	23	1.5	1	50.4	64.2	67.1	81.7	14	55	4 600	5 700	0.659
TAC40-3	40	110	27	2	1	62	79.1	82.4	100.6	25	55	3 700	4 700	1.28
45TAC03D	45	100	25	1.5	1	56.5	71.7	74.7	90.8	18	55	4 100	5 200	0.877
TAC45-3	45	110	27	2	1	62	79.1	82.4	100.6	25	55	3 700	4 700	1.21
50TAC03D	50	110	27	2	1	62	79.1	82.4	100.6	25	55	3 700	4 700	1.14
TAC50-3	50	130	31	2.1	1.1	73.9	93.8	98	119	40	55	3 100	3 900	2.00
55TAC03D	55	120	29	2	1	68	86.4	90.2	109.7	32	55	3 400	4 300	1.44
60TAC03D	60	130	31	2.1	1.1	73.9	93.8	98	119	40	55	3 100	3 900	1.80
TAC60-3	60	170	39	2.1	1.1	98.5	123.6	128.7	157.5	85	55	2 400	3 000	4.47
70TAC03D	70	150	35	2.1	1.1	86.3	108.6	113.4	137.8	59	55	2 700	3 400	2.67
75TAC03D	75	160	37	2.1	1.1	92.4	116.2	121	146.2	67	55	2 500	3 200	3.20
80TAC03D	80	170	39	2.1	1.1	98.5	123.6	128.7	157.5	85	55	2 400	3 000	3.80
TAC80-3	80	215	47	3	1.1	124	154.9	160.4	194.5	156	55	1 900	2 400	8.66
100TAC03D	100	215	47	3	1.1	124	154.9	160.4	194.5	156	55	1 900	2 400	7.54
TAC100-3	100	260	55	3	1.1	150.5	186.9	193.4	231.7	254	55	1 500	2 000	14.8
120TAC03D	120	260	55	3	1.1	150.5	186.9	193.4	231.7	254	55	1 500	2 000	13.3
* TAC120-3M	120	300	62	4	1.5	174.3	215.3	224.1	268.3	336	55	1 300	1 700	24.4
* 140TAC03DM	140	300	62	4	1.5	174.3	215.3	224.1	268.3	336	55	1 300	1 700	22.4
* TAC140-3M	140	340	68	4	1.5	201.2	246.2	254.3	301.6	442	55	1 200	1 500	34.1
* 160TAC03DM	160	340	68	4	1.5	201.2	246.2	254.3	301.6	442	55	1 200	1 500	31.6
* TAC160-3M	160	380	75	4	1.5	225.1	275.6	284.9	338.8	624	55	1 000	1 400	47.0
* 180TAC03DM	180	380	75	4	1.5	225.1	275.6	284.9	338.8	624	55	1 000	1 400	43.8

⁽¹⁾ An asterisk (*) indicates bearings that are also available equipped with screw holes for mounting bolts.

⁽²⁾ Limiting speeds are based on the standard preload of each bearing. The values shown are valid for all types of bearing arrangement.

⁽³⁾ Preload values for bearings with a bore diameter of 100mm or more as well as for TAC80-3 are based on EL preload.

⁽⁴⁾ The starting torque values in the table apply to grease lubrication.

⁽⁵⁾ To calculate permissible axial load, multiply limiting axial load by 0.7.

Calculation of preload, axial rigidity and starting torque for bearing arrangements
 Multiply by factors in table B.

Table B Number of load-sustaining rows	2 rows		3 rows			4 rows		5 rows
	DFD ○○○	DF ○○○	DFT ○○○	DFFD ○○○○	DFFF ○○○○○	DFTD ○○○○○	DFFT ○○○○○	DFTT ○○○○○
	DBD ○○○	DBB ○○○	DBT ○○○	DBBD ○○○○	DBBB ○○○○○	DBTD ○○○○○	DBBT ○○○○○	DBTT ○○○○○
Preload factor	1.36	2.0	1.57	2.42	3.0	1.72	2.72	1.83
Axial rigidity	1.49	2.0	1.89	2.51	3.0	2.24	2.97	2.57
Starting torque	1.35	2.0	1.55	2.41	3.0	1.68	2.71	1.73

Preload ⁽³⁾ (DB and DF Arrangement) (N)	Axial Rigidity ⁽³⁾ (DB and DF Arrangement) (N/μm)	Starting Torque ⁽⁴⁾ (DB and DF Arrangement) (N·m)	Basic dynamic load rating Ca by number of rows sustaining Fa					Limiting static axial load by number of rows sustaining Fa ⁽⁵⁾				
			1 row (kN)	2 rows (kN)	3 rows (kN)	4 rows (kN)	5 rows (kN)	1 row (kN)	2 rows (kN)	3 rows (kN)	4 rows (kN)	5 rows (kN)
400	290	0.017	21.0	34.0	45.0	55.5	64.5	18.6	37.5	56.0	74.5	93.0
830	430	0.026	42.5	69.5	92.0	113	132	38.5	77.0	116	154	193
690	430	0.036	37.0	60.0	79.5	97.5	114	36.0	72.5	109	145	181
2 500	780	0.26	113	184	244	299	350	118	235	355	470	590
2 500	780	0.26	113	184	244	299	350	118	235	355	470	590
3 900	970	0.50	166	270	360	440	515	181	360	540	720	905
2 800	830	0.31	133	216	287	350	410	142	283	425	565	710
3 900	970	0.50	166	270	360	440	515	181	360	540	720	905
3 900	970	0.50	166	270	360	440	515	181	360	540	720	905
5 200	1 120	0.78	218	355	470	575	670	242	485	725	965	1 210
4 280	1 060	0.68	190	310	410	500	585	210	420	630	840	1 050
5 200	1 120	0.78	218	355	470	575	670	242	485	725	965	1 210
8 050	1 400	1.5	305	495	660	805	940	390	775	1 170	1 550	1 940
6 400	1 250	1.1	262	425	565	690	810	305	615	920	1 230	1 530
7 230	1 330	1.3	283	460	610	750	875	345	690	1 040	1 380	1 730
8 050	1 400	1.5	305	495	660	805	940	390	775	1 170	1 550	1 940
1 240	880	0.15	420	685	910	1 110	1 300	510	1 020	1 530	2 040	2 550
1 240	880	0.15	420	685	910	1 110	1 300	510	1 020	1 530	2 040	2 550
1 620	1 050	0.21	520	850	1 130	1 380	1 610	680	1 360	2 040	2 720	3 400
1 620	1 050	0.21	520	850	1 130	1 380	1 610	680	1 360	2 040	2 720	3 400
1 710	1 130	0.24	640	1 040	1 380	1 680	1 970	794	1 590	2 380	3 200	3 950
1 710	1 130	0.24	640	1 040	1 380	1 680	1 970	794	1 590	2 380	3 200	3 950
1 850	1 240	0.27	725	1 180	1 570	1 920	2 240	1 040	2 080	3 100	4 150	5 200
1 850	1 240	0.27	725	1 180	1 570	1 920	2 240	1 040	2 080	3 100	4 150	5 200
1 940	1 310	0.30	815	1 330	1 760	2 150	2 520	1 360	2 720	4 100	5 450	6 800
1 940	1 310	0.30	815	1 330	1 760	2 150	2 520	1 360	2 720	4 100	5 450	6 800