

## HIGH-PRECISION BEARINGS

Ball Screw  
Support Bearings



### BALL SCREW SUPPORT BEARINGS

Highly precise single direction angular contact thrust ball bearings with a contact angle at 60 degrees for precision ball screws have been designed specifically for each application. They are highly precise and highly rigid with high speeds, low friction, extended service life, good interchange capacity between high and low speeds. They are found in support function of machine tools and similar transmission component.

InnTec precise single direction angular contact thrust ball bearings for ball screws consist of four series: 7602, 7603, BS and BSS series respectively. Standard metric 7602 and 7603 series are in accord with Chinese standard JB/T8564 sizing from 12 mm to 130 mm. BS series are metric non-standard. BSS series are inch size. Single direction angular contact thrust ball bearings for ball screws accommodate large axial load in single direction and limited radial load. They are mounted in pairs or multiples like angular contact ball bearings.

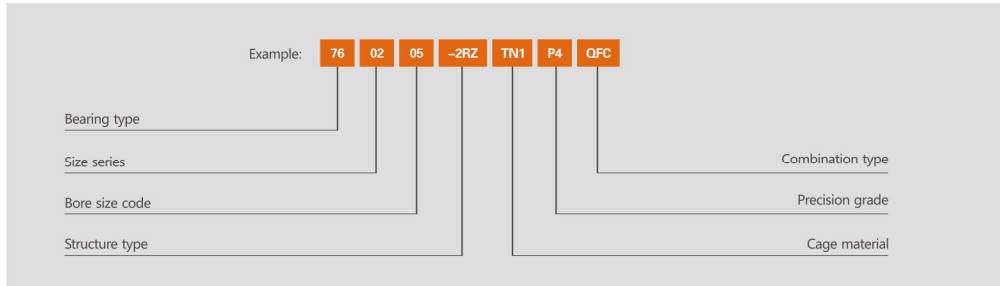
# HIGH-PRECISION BEARINGS



## InnTec Bearing

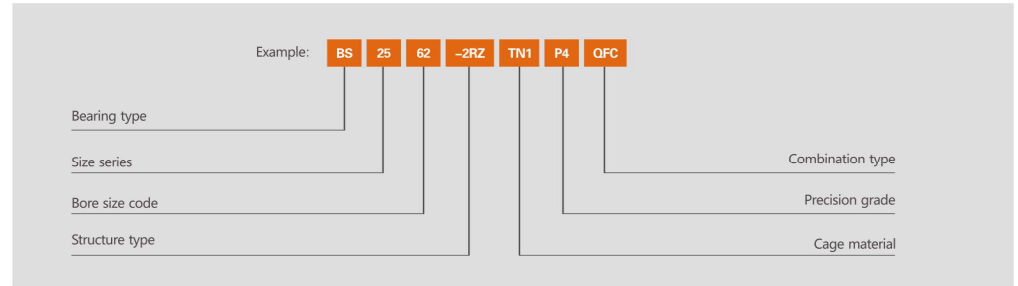
Ball Screw Support Bearings

Composition of reference number for standard metric bearings



76	Bearing type	angular contact thrust ball bearings with a contact angle at 60 degrees
02	Size series	ISO diameter series 2
		ISO diameter series 3
05	Bore size code	Inner ring=05×5=25mm
-2RZ	Structure type	Non-contact rubber seals on both sizes
TN1	Combination type	
P4	Precision grade	ISO grade P4
		ISO grade P2
QFC	Cage material	polyamide PA66-GF25

Composition of reference number for non-standard metric bearings

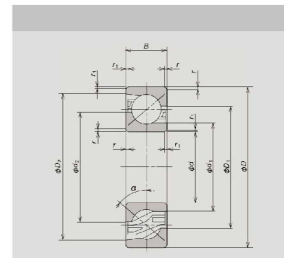


BS	Bearing type	Non-standard metric
		BSS inch size
25	Size series	Inner diameter 25 mm
62	Bore size code	Outer diameter 62 mm
-2RZ	Structure type	Non-contact rubber seals on both sizes
TN1	Combination type	
P4	Precision grade	ISO grade P4
		ISO grade P2
QFC	Cage material	polyamide PA66-GF25

### Ball Screw Angular Contact Thrust Ball Bearing Units

Ball screw support units that combine thrust angular contact ball bearings and other components are easy to install and use with a reliable performance. LXB angular contact thrust ball bearing units are available in three series classed by mounting types: BSDU DF, BSTU TFT and BSQU QFC.

### Structures





## HIGH-PRECISION BEARINGS

## Ball Screw Support Bearings Standard metric series 7602

Dimensions (mm)					Installation dimensions (mm)			Load ratings (kN)		Revolutionspeed limit (r/min)		Weight (kg)	Bearing numbers
d	D	B	r <sub>smin</sub>	a ≈	d <sub>a</sub>	D <sub>a</sub>	r <sub>a</sub>	C <sub>r</sub>	C <sub>or</sub>	Grease	Oil		
					h12	H12	Max						
12	32	10	0.6	24	17.0	27.0	0.6	11.6	12.5	17000	24000	0.04	760201TN1
15	35	11	0.6	27	20.5	30.0	0.6	12.5	15	15000	20000	0.05	760202TN1
17	40	12	0.6	31	23.0	34.5	0.6	16.6	20	13000	18000	0.07	760203TN1
20	47	14	1.0	36	27.5	39.5	1.0	19.3	25	12000	17000	0.13	760204TN1
25	52	15	1.0	41	32.5	45.0	1.0	22	30.5	11000	16000	0.16	760205TN1
30	62	16	1.0	48	39.5	52.5	1.0	26	39	9000	13000	0.24	760206TN1
35	72	17	1.1	55	46.5	60.5	1.1	30	50	8000	11000	0.34	760207TN1
40	80	18	1.1	62	53.5	69.5	1.1	37.5	64	7000	9500	0.44	760208TN1
45	85	19	1.1	66	57.0	73.0	1.1	38	68	6700	9000	0.50	760209TN1
50	90	20	1.1	71	63.0	79.0	1.1	39	75	6300	8500	0.57	760210TN1
55	100	21	1.5	78	69.5	85.5	1.5	40.5	81.5	6000	8000	0.75	760211TN1
60	110	22	1.5	86	77.0	96.0	1.5	56	112	5000	6700	0.96	760212TN1
65	120	23	1.5	92	84.0	103.0	1.5	57	122	4800	6300	1.20	760213TN1
70	125	24	1.5	96	87.0	108.0	1.5	65.5	137	4500	6000	1.32	760214TN1
75	130	25	1.5	101	93.5	114.5	1.5	67	150	4300	5600	1.45	760215TN1
80	140	26	2.0	108	100.0	122.0	2.0	76.5	175	4000	5300	1.76	760216TN1
85	150	28	2.0	116	107.0	131.0	2.0	86.5	196	3800	5000	2.19	760217TN1
90	160	30	2.0	123	113.5	138.5	2.0	98	224	3600	4800	2.69	760218TN1
95	170	32	2.1	131	119.5	146.5	2.1	110	255	3400	4500	3.26	760219TN1
100	180	34	2.1	138	125.5	154.5	2.1	122	285	3200	4300	3.91	760220TN1
110	200	38	2.1	153	139.0	171.0	2.1	146	355	2800	3800	5.5	760222TN1
120	215	40	2.1	165	150.0	185.0	2.1	176	425	2600	3600	5.5	760224TN1
130	230	40	3.0	176	162.5	197.0	3.0	180	455	2400	3400	7.4	760226TN1



## InnTec Bearing

## Ball Screw Support Bearings Standard metric series 7603

Dimensions (mm)					Installation dimensions (mm)			Load ratings (kN)		Revolutionspeed limit (r/min)		Weight (kg)	Bearing numbers
d	D	B	r <sub>smin</sub>	a ≈	d <sub>a</sub>	D <sub>a</sub>	r <sub>a</sub>	C <sub>r</sub>	C <sub>or</sub>	Grease	Oil		
					h12	H12	Max						
20	52	15	1.1	39	30.5	43.5	1.1	24.5	32	11000	16000	0.17	760304TN1
25	62	17	1.1	46	38.0	52.0	1.1	28.5	41.5	9000	13000	0.28	760305TN1
30	72	19	1.1	53	45.0	61.0	1.1	34.5	55	8000	11000	0.41	760306TN1
35	80	21	1.5	60	51.0	67.0	1.5	36.5	61	7000	9500	0.55	760307TN1
35	90	23	1.5	68	56.5	75.7	1.5	50	83	6300	8500	0.81	760307X3TN1
40	90	23	1.5	68	56.5	75.7	1.5	50	83	6300	8500	0.76	760308TN1
45	100	25	1.5	75	64.5	85.5	1.5	58.5	104	5600	7500	1.02	760309TN1
45	110	27	2.0	83	72.0	94.0	2.0	69.5	127	5000	6700	1.41	760309X3TN1
50	110	27	2.0	83	72.0	94.0	2.0	69.5	127	5000	6700	1.33	760310TN1
55	120	29	2.0	90	77.0	101.0	2.0	78	146	4800	6300	1.69	760311TN1
60	130	31	2.1	98	82.5	107.5	2.1	88	166	4500	6000	2.12	760312TN1
65	140	33	2.1	105	91.5	118.5	2.1	100	196	4000	5300	2.60	760313TN1
70	150	35	2.1	113	95.5	124.5	2.1	110	220	3800	5000	3.16	760314TN1
75	160	37	2.1	120	105.5	135.5	2.1	125	255	3600	4800	3.79	760315TN1
80	170	39	2.1	128	111.0	143.0	2.1	137	285	3400	4500	4.50	760316TN1
85	180	41	3.0	135	116.0	151.0	3.0	160	325	3200	4300	5.29	760317TN1
90	190	43	3.0	143	122.5	157.5	3.0	163	345	3000	4000	6.17	760318TN1
95	200	45	3.0	150	130.0	165.0	3.0	163	360	3000	4000	7.15	760319TN1
100	215	47	3.0	160	140.0	178.0	3.0	193	430	2600	3600	8.73	760320TN1
110	240	50	3.0	176	154.5	200.0	3.0	250	560	2400	3400	11.8	760322TN1
120	260	55	3.0	192	165.0	210.0	3.0	265	620	2200	3200	14.6	760324TN1
130	280	58	3.0	206	181.0	229.0	3.0	290	695	2000	3000	18.7	760326TN1



# HIGH-PRECISION BEARINGS

Ball Screw Support Bearings  
Standard metric series 7602  
with non-contact seals

Dimensions (mm)					Installation dimensions (mm)			Load ratings (kN)		Revolution speed limit (r/min)	Weight (kg)	Bearing numbers 轴承型号
d	D	B	r <sub>smin</sub>	a ≈	d <sub>a</sub>	D <sub>a</sub>	r <sub>a</sub>	Cr	Cor			
					h12	H12	Max					
12	32	10	0.6	24	17.0	27.0	0.6	11.6	12.5	17000	0.04	760201-2RZ TN1
15	35	11	0.6	27	20.5	30.0	0.6	12.5	15	15000	0.05	760202-2RZ TN1
17	40	12	0.6	31	23.0	34.5	0.6	16.6	20	13000	0.07	760203-2RZ TN1
20	47	14	1.0	36	27.5	39.5	1.0	19.3	25	12000	0.13	760204-2RZ TN1
25	52	15	1.0	42	32.5	45.0	1.0	22	30.5	11000	0.16	760204-2RZ TN1
30	62	16	1.0	48	39.5	52.5	1.0	26	39	9000	0.24	760205-2RZ TN1
35	72	17	1.1	55	46.5	60.5	1.1	30	50	8000	0.34	760206-2RZ TN1
40	80	18	1.1	62	53.5	69.5	1.1	37.5	64	7000	0.44	760207-2RZ TN1
45	85	19	1.1	66	57.0	73.0	1.1	38	68	6700	0.50	760208-2RZ TN1
50	90	20	1.1	71	63.0	79.0	1.1	39	75	6300	0.57	760209-2RZ TN1
55	100	21	1.5	78	69.5	85.5	1.5	40.5	81.5	6000	0.75	760210-2RZ TN1
60	110	22	1.5	86	77.0	96.0	1.5	56	112	5000	0.96	760211-2RZ TN1
65	120	23	1.5	92	84.0	103.0	1.5	57	122	4800	1.20	760212-2RZ TN1
70	125	24	1.5	96	87.0	108.0	1.5	65.5	137	4500	1.32	760213-2RZ TN1
75	130	25	1.5	101	93.5	114.5	1.5	67	150	4300	1.45	760214-2RZ TN1
80	140	26	2.0	108	100.0	122.0	2.0	76.5	175	4000	1.76	760215-2RZ TN1
85	150	28	2.0	116	107.0	131.0	2.0	86.5	196	3800	2.19	760216-2RZ TN1
90	160	30	2.0	123	113.5	138.5	2.0	98	224	3600	2.69	760217-2RZ TN1
95	170	32	2.1	131	119.5	146.5	2.1	110	255	3400	3.26	760218-2RZ TN1
100	180	34	2.1	138	125.5	154.5	2.1	122	285	3200	3.91	760219-2RZ TN1
110	200	38	2.1	153	139.0	171.0	2.1	146	355	2800	5.5	760220-2RZ TN1
120	215	40	2.1	165	150.0	185.0	2.1	176	425	2600	6.5	760224-2RZ TN1
130	230	40	3.0	176	162.5	197.0	3.0	180	455	2400	7.4	760226-2RZ TN1



# InnTec Bearing

Ball Screw Support Bearings  
Non-standard metric series BS

Dimensions (mm)					Installation dimensions (mm)			Load ratings (kN)		Revolutionspeed limit (r/min)		Weight (kg)	Bearing numbers
d	D	B	r <sub>smin</sub>	a ≈	d <sub>a</sub>	D <sub>a</sub>	r <sub>a</sub>	Cr	Cor	Grease	Oil		
					h12	H12	Max						
15	47	15	1.0	35	27.5	39.5	1.0	21.5	27	12000	17000	0.14	BS 1547 TN1
17	47	15	1.0	35	27.5	39.5	1.0	21.5	27	12000	17000	0.14	BS 1747 TN1
20	47	15	1.0	37	27.5	39.5	1.0	19.3	25	12000	17000	0.13	BS 2047 TN1
25	62	15	1.0	46	38.0	52.0	1.0	28.5	41.5	9000	13000	0.24	BS 2562 TN1
30	62	15	1.0	48	39.5	52.5	1.0	26	39	9000	13000	0.23	BS 3062 TN1
30	72	15	1.0	52	45.0	61.0	1.1	31	54	8000	11000	0.35	BS 3072 TN1
35	72	15	1.0	54	46.5	60.5	1.1	30	50	8000	11000	0.30	BS 3572 TN1
40	72	15	1.0	56	49.0	62.5	1.1	28	49	8000	11000	0.26	BS 4072 TN1
40	90	20	1.5	67	56.5	75.5	1.5	50	83	6300	8500	0.65	BS 4090 TN1
45	95	15	1.0	60	52.0	68.0	1.0	28.5	52	7500	10000	0.26	BS 4575 TN1
45	100	20	1.5	74	64.5	85.5	1.5	58.5	104	5600	7500	0.81	BS 45100 TN1
50	100	20	1.5	76	64.5	85.5	1.5	58.5	104	5600	7500	0.75	BS 50100 TN1
55	90	15	1.0	70	65.0	80.0	1.0	32.5	65.5	6300	8500	0.38	BS 5590 TN1
55	100	20	1.5	77	69.5	85.5	1.5	40.5	81.5	6000	8000	0.75	BS 55100 TN1
55	120	20	1.5	86	77.0	97.5	2.0	60	116	5000	6700	1.18	BS 55120 TN1
60	120	20	1.5	88	79.5	100.5	1.5	61	120	4800	6300	1.11	BS 60120 TN1
75	110	15	1.5	88	85.0	99.5	1.5	35.5	83	5000	6700	0.75	BS 75110 TN1
100	150	22.5	2.0	120	114.5	135.0	2.0	69.5	173	3800	5000	1.37	BS 100150 TN1

### Inch size series BBS

Dimensions (mm)					Installation dimensions (mm)			Load ratings (kN)		Revolutionspeed limit (r/min)		Weight (kg)	Bearing numbers
d	D	B	r <sub>smin</sub>	a ≈	d <sub>a</sub>	D <sub>a</sub>	r <sub>a</sub>	Cr	Cor	Grease	Oil		
					h12	H12	Max						
20.000	47	15.875	1.0	38	27.5	39.5	1.0	19.3	25	12000	17000	0.13	BSS 2047 TN1
23.838	62	15.875	1.0	45	38.0	52.0	1.0	28.5	41.5	9000	13000	0.24	BSS 2362 TN1
38.100	72	15.875	1.0	56	49.0	62.5	1.1	28	49	8000	11000	0.26	BSS 3872 TN1
44.475	76.2	15.875	1.0	60	52.0	68.0	1.0	28.5	52	7500	10000	0.26	BSS 4476 TN1
57.150	90	15.875	1.0	72	65.0	80.0	1.0	32.5	65.5	6300	8500	0.38	BSS 5790 TN1
76.200	110	15.875	1.5	88	85.0	99.5	1.5	35.5	83	5000	6700	0.75	BSS 76110 TN1
101.600	145	22.225	1.5	118	114.5	132.0	2.0	69.5	173	3800	5000	1.37	BSS 101145 TN1



Ball Screw Support Bearings  
Standard metric series 7603  
with non-contact seals

Dimensions (mm)					Installation dimensions (mm)			Load ratings (kN)		Revolution speed limit (r/min)	Weight (kg)	Bearing numbers
d	D	B	f <sub>smin</sub>	a ≈	d <sub>a</sub>	D <sub>a</sub>	r <sub>a</sub>	Cr	Cor			
					h12	H12	Max					
20	52	15	1.1	39	30.5	43.5	1.1	24.5	32	11000	0.17	760304-2RZ TN1
25	62	17	1.1	46	38.0	52.0	1.1	28.5	41.5	9000	0.28	760305-2RZ TN1
30	72	19	1.1	53	45.0	61.0	1.1	34.5	55	8000	0.41	760306-2RZ TN1
35	80	21	1.5	60	51.0	67.0	1.5	36.5	61	7000	0.55	760307-2RZ TN1
35	90	23	1.5	68	56.5	75.7	1.5	50	83	6300	0.81	760307-2RZ TN1
40	90	23	1.5	68	56.5	75.7	1.5	50	83	6300	0.76	760308-2RZ TN1
45	100	25	1.5	75	64.5	85.5	1.5	58.5	104	5600	1.02	760309-2RZ TN1
45	110	27	2.0	83	72.0	94.0	2.0	69.5	127	5000	1.041	760309-2RZ TN1
50	110	27	2.0	83	72.0	94.0	2.0	69.5	127	5000	1.33	760310-2RZ TN1
55	120	29	2.0	90	77.0	101.0	2.0	78	146	4800	1.69	760311-2RZ TN1
60	130	31	2.1	98	82.5	117.5	2.1	88	166	4500	2.12	760312-2RZ TN1
65	140	33	2.1	105	91.5	118.5	2.1	100	196	4000	2.60	760312-2RZ TN1
70	150	35	2.1	113	95.5	124.5	2.1	110	220	3800	3.16	760314-2RZ TN1
75	160	37	2.1	120	105.5	135.5	2.1	125	255	3600	3.79	760315-2RZ TN1
80	170	39	2.1	128	111.0	143.0	2.1	137	285	3400	4.50	760316-2RZ TN1
85	180	41	3.0	135	116.0	151.0	3.0	160	325	3200	5.29	760317-2RZ TN1
90	190	43	3.0	143	122.5	157.5	3.0	160	345	3000	6.17	760318-2RZ TN1
95	200	45	3.0	150	130.0	165.0	3.0	160	360	3000	7.15	760319-2RZ TN1
100	215	47	3.0	160	140.0	178.0	3.0	193	430	2600	8.73	760320-2RZ TN1
110	240	50	3.0	176	154.5	200.0	3.0	250	560	2400	11.8	760322-2RZ TN1
120	260	55	3.0	192	165.0	210.0	3.0	265	620	2200	14.6	760324-2RZ TN1
130	280	58	3.0	206	181.0	229.0	3.0	290	695	2000	18.7	760326-2RZ TN1



## InnTec Bearing

Ball Screw Support Bearings  
Standard metric series BS  
with non-contact seals

Dimensions (mm)					Installation dimensions (mm)			Load ratings (kN)		Revolution speed limit (r/min)	Weight (kg)	Bearing numbers
d	D	B	f <sub>smin</sub>	a ≈	d <sub>a</sub>	D <sub>a</sub>	r <sub>a</sub>	Cr	Cor			
					h12	H12	Max					
15	47	15	1.0	35	27.5	39.5	1.0	21.5	27	12000	0.14	BS1547-2RZ Tn1
17	47	15	1.0	35	27.5	39.5	1.0	21.5	27	12000	0.14	BS1747-2RZ Tn1
20	47	15	1.0	37	27.5	39.5	1.0	19.3	25	12000	0.13	BS2062-2RZ Tn1
25	62	15	1.0	46	38.0	52.0	1.0	28.5	41.5	9000	0.24	BS2562-2RZ Tn1
30	62	15	1.0	48	39.5	52.5	1.0	26	39	9000	0.23	BS3072-2RZ Tn1
30	72	15	1.0	52	45.0	61.0	1.1	31	54	8000	0.35	BS3072-2RZ Tn1
35	72	15	1.0	54	46.5	60.5	1.1	30	50	8000	0.30	BS3572-2RZ Tn1
40	72	15	1.0	56	49.0	62.5	1.1	28	49	8000	0.26	BS4072-2RZ Tn1
40	90	20	1.5	67	56.5	75.5	1.5	50	83	6300	0.65	BS4090-2RZ Tn1
45	95	15	1.0	60	52.0	68.0	1.0	28.5	52	7500	0.26	BS4575-2RZ Tn1
45	100	20	1.5	74	64.5	85.5	1.5	58.5	104	5600	0.81	BS45100-2RZ Tn1
50	100	20	1.5	76	64.5	85.5	1.5	58.5	104	5600	0.75	BS50100-2RZ Tn1
55	90	15	1.0	70	65.0	80.0	1.0	32.5	65.5	6300	0.38	BS5590-2RZ Tn1
55	100	20	1.5	77	69.5	85.5	1.5	40.5	81.5	6000	0.75	BS55100-2RZ Tn1
55	120	20	1.5	86	77.0	97.5	2.0	60	116	5000	1.18	BS55120-2RZ Tn1
60	120	20	1.5	88	79.5	100.5	1.5	61	120	4800	1.11	BS60120-2RZ Tn1
75	110	15	1.5	88	85.0	99.5	1.5	35.5	83	5000	0.75	BS75110-2RZ Tn1
100	150	22.5	2.0	120	114.5	135.0	2.0	69.5	173	3800	1.37	BS100150-2RZ Tn1