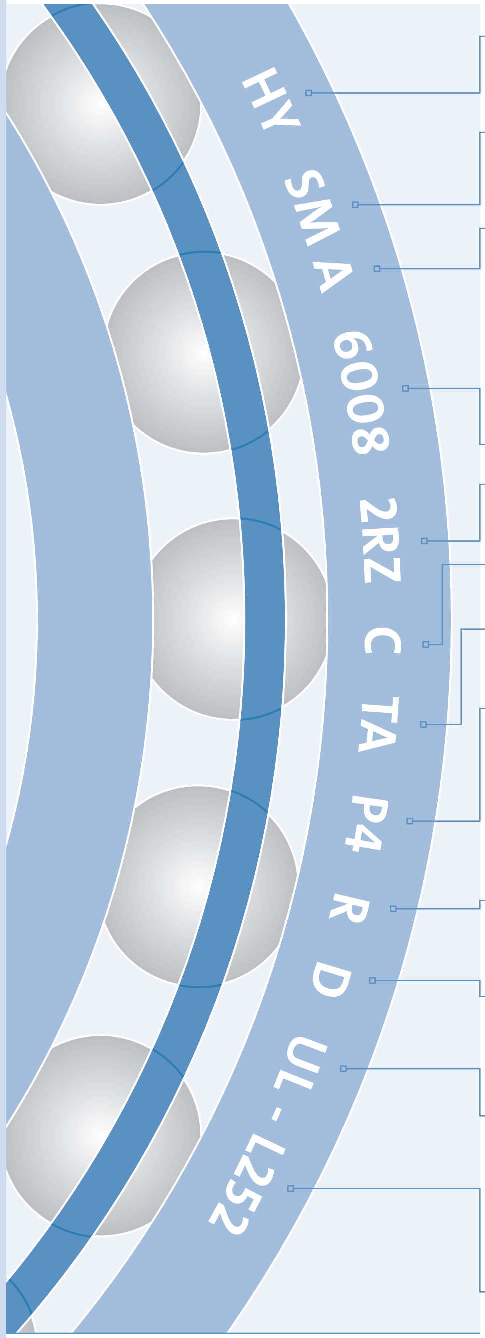
GMN
Bearing designation

Example

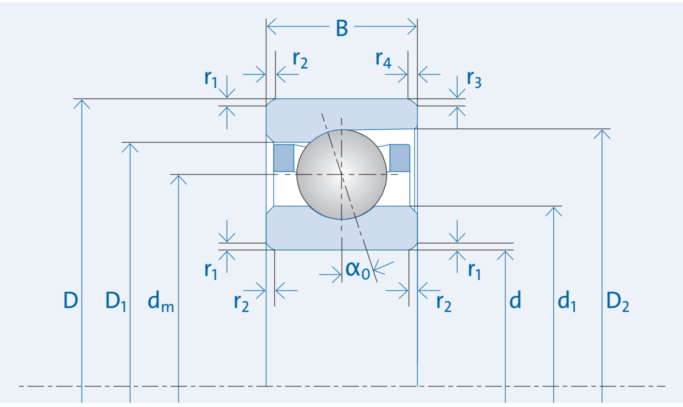


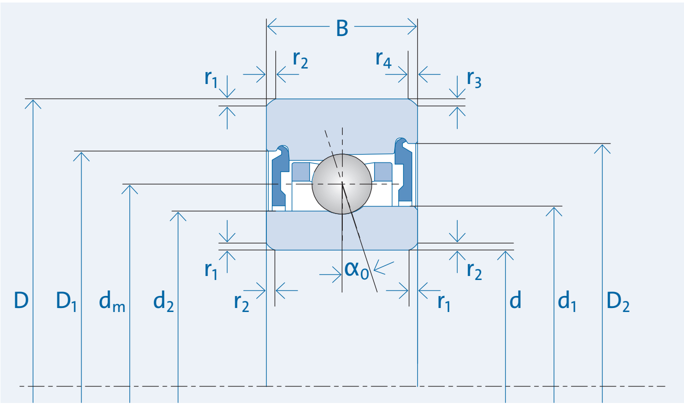
Material	-	Bearings made of bearing steel have no designation
	N	Bearings made of high nitrogen steels, special material (on request)
	HY	Balls and rings made of different materials (HYBRID bearings)
Series	S	Standard spindle bearings
	SM	Standard spindle bearings for higher speeds
	KH	Standard spindle bearings for higher speeds, with seal
Lubrication	-	Standard
	A	Oil lubrication hole through outer ring on open side
	AB	Oil lubrication hole through outer ring on closed side
	L	Oil lubrication hole through outer ring on open side, outer ring seal with O-rings
	LB	Oil lubrication hole through outer ring on closed side outer ring seal with O-rings
	AG	Grease lubrication hole through outer ring on open side
Bearing size	6008	Designation of dimension series and bore diameter
Seal	2RZ	Seal on both sides (for KH series)
Nominal contact angle	C	15°
	E	25°
	18°	Special design
Cage	TA	Laminated phenolic resin cage guided in outer ring
	TXM	Plastic cage guided in outer ring, ball-retaining
Precision	P4	Tolerance class P4 corresponds to P4S per DIN 628-6
	P2	Tolerance class P2
	A7	ABEC 7 per ABMA standards, corresponds to P4
	A9	ABEC 9 per ABMA standards, corresponds to P2
	HG	GMN high precision per GMN specification
	UP	GMN ultra precision per GMN specification
High point marking	R	Marks the highest point of radial runout (the greatest wall thickness) for inner and outer ring
	R_i	like R, but only for inner ring
	R_a	like R, but only for outer ring
Bearing sets	D	2 bearings
	T	3 bearings
	Q	4 bearings
Matching and preload	UL	Universal matching – light preload
	UM	Universal matching – medium preload
	US	Universal matching – heavy preload
	UV	Universal matching – preload per agreement
	B	O arrangement
	F	X arrangement
	T	Tandem arrangement
Lubrication	-	ungreased
	L252	Lubricant identifier, e.g. Turmogrease HS L252

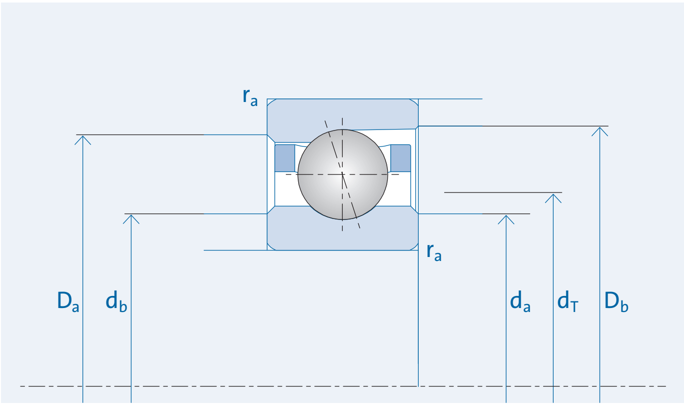
GMN
High precision spindle ball bearings
Bearing data

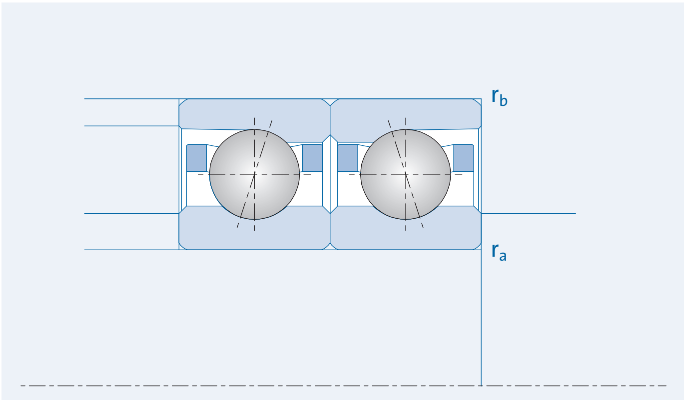
Bearing data
Bore diameter from 5 to 6 mm

Symbol explanations









Boundary dimensions

- **d** [mm] Bore diameter
- **D** [mm] Outer diameter
- **B** [mm] Width of single bearing

Balls

- **d_m** [mm] Pitch circle diameter
- **D_w** [mm] Ball diameter
- **Z** pieces Number of balls

Dimensions

- **d_1** [mm] Outer diameter of inner ring
- **d_2** [mm] Outer diameter of inner ring (open side)
- **D_1** [mm] Inner diameter of outer ring
- **D_2** [mm] Inner diameter of outer ring (open side)
- **$r_{1,2}$** [mm] Chamfer (min)
- **$r_{3,4}$** [mm] Chamfer; open side (min)

Abutment dimensions

- **$r_{a\,max}$** [mm] Undercut of associated component
- **$r_{b\,max}$** [mm] Undercut of associated component (open side)
- **$d_{a\,min}$** [mm] Abutment diameter inner ring
- **$d_{b\,min}$** [mm] Abutment diameter inner ring
- **$D_{a\,max}$** [mm] Abutment diameter outer ring
- **$D_{b\,max}$** [mm] Abutment diameter outer ring
- **d_T** [mm] Oiling nozzle position for bearings with TA cage (for TXM cage on request)

- **m** [kg] Bearing weight
- **α_0** [°] Contact angle

Load rating

- **C** [N] Dynamic load rating
- **C_0** [N] Static load rating, steel balls
- **$C_{0\,HY}$** [N] Static load rating, Si_3N_4 balls

Speed values

- **n_{oil}** [1/min] Speed with oil lubrication
- **n_{grease}** [1/min] Speed with grease lubrication

Preload / axial rigidity

- **F_v** [N] Preload
- **C_{ax}** [N/µm] Axial rigidity (bearing pair)
  - **L** light preload
  - **M** medium preload
  - **S** heavy preload

- **F_f** [N] Minimum spring preload at max. speed

	Boundary dimensions			Balls			Dimensions						Abutment dimensions				
Designation	d	D	B	d_m	D_W	Z	d_1	d_2	D_1	D_2	$r_{1,2}$	$r_{3,4}$	$r_{a\,max}$	$r_{b\,max}$	$d_{a,\,b\,min}$	$D_{a,\,b\,max}$	d_T
5 mm																	
S 619/5 C TA	5	13	4	9.0	2.381	8	7.1		10.7	11.3	0.2	0.2	0.2	0.1	6.8	11.2	8.05
S 605 C TA	5	14	5	9.5	2.381	8	6.9		10.3	11.0	0.2	0.2	0.2	0.1	6.5	11.5	7.8
SM 605 C TA	5	14	5	9.5	2.381	8	6.9		10.3	11.0	0.2	0.2	0.2	0.1	6.5	11.5	7.8
S 625 C TA	5	16	5	10.5	3.175	7	7.7		12.5	13.2	0.3	0.3	0.3	0.15	7.5	13.5	9.0
6 mm																	
S 619/6 C TA	6	15	5	10.5	2.381	9	8.5		12.1	12.7	0.2	0.2	0.2	0.1	8.0	13.0	9.43
S 606 C TA	6	17	6	10.0	2.381	9	8.3		11.7	12.4	0.3	0.3	0.3	0.1	8.0	14.5	9.2
SM 606 C TA	6	17	6	10.0	2.381	9	8.3		11.7	12.4	0.3	0.3	0.3	0.1	8.0	14.5	9.2
S 626 C TA	6	19	6	12.5	3.175	10	10.7		15.8	16.5	0.3	0.3	0.3	0.15	9.0	16.5	12.1

Weight	Contact angle	Load rating			Speed value		Preload/axial rigidity						Spring preload	
m	α_0	C	C_0	$C_{0\,HY}$	n_{oil}	n_{grease}	F_v	C_{ax}	F_v	C_{ax}	F_v	C_{ax}	F_f	Designation
							L		M		S			
														5 mm
0.002	15	1200	430	300	190000	140000	6	7	18	11	36	15	35	S 619/5 C TA
0.004	15	1400	545	385	195000	145000	7	8	20	13	40	20	40	S 605 C TA
0.004	15	990	310	216	230000	170000	5	5	14	9	28	13	30	SM 605 C TA
0.005	15	1930	710	500	170000	125000	10	9	30	14	60	21	50	S 625 C TA
														6 mm
0.004	15	1320	510	360	165000	125000	7	8	20	12	40	17	35	S 619/6 C TA
0.005	15	1540	660	465	170000	125000	8	9	25	16	45	22	40	S 606 C TA
0.005	15	1100	370	260	200000	150000	6	7	18	11	32	15	35	SM 606 C TA
0.008	15	2600	1170	820	125000	94000	15	13	40	20	80	29	70	S 626 C TA