Supplementary designations

N	Snap ring groove in outside cylindrical surface of the outer ring.
NR	As N, but with snap ring.
RS1	Contact type rubber seal with sheet steel reinforcement, at one side of the bearing.
2RS1	RS1 seals at both sides of the bearing.
RZ	Low friction seal of synthetic rubber with sheet steel reinforcement at on side of the bearing.
2RZ	RZ seals at both sides of the bearing.
Z	Shield (non-contact type) at one side of the bearing.
2Z	Z shields at both sides of the bearing.
ZN	Z shield at one side of the bearing and snap ring groove in outer ring.
ZNR	As ZN, but with snap ring.
2ZNR	As 2ZN, but with snap ring.
TN9	Glass fibre reinforced polyamide 6,6 window-type cage.
HN3	Stands for carbonitrided bearing. Performance of standard through hardened bearings can be drastically improved by the use of a surface heat treatment called carbonitriding. Carbonitriding is a high temperature heat treatment, which involves the diffusion of carbon and nitrogen into the surface of the steel. Deep Groove Ball Bearings (DGBB) with carbonitrided inner rings have been found to be twice as resistant compared to regular hardened DGBBs.
H	Stands for radial clearance in the upper half of the same clearance bracket e.g. 6002/C3H, here clearance for C3 is between 8 to 23 micron but for C3H clearance is between 15 to 23 micron. CNL Stands for radial clearance in the lower half of the same clearance bracket e.g. 6304/CNL, here clearance for normal bearing is between 5 to 20 micron but for CNL clearance is between 5 to 14 micron.
CNP	Stands for radial clearance which is a combination of the upper half of normal (CN) and the lower half of C3 range e.g. 6305/CNP, here the clearance for normal bearing is between 5 to 20 micron and 13 to 28 micron for C3. Hence, CNP clearance will be 13 to 21 micron.
VB133	Chamfer in bore deviating from basic bearing.
VQ091	Close bore diameter tolerance.
VB524	Chamfer in bore and outer diameter deviating from basic bearing.
VQ213	Special tolerance for bearing vibration & peaks.
MTF7&9	Here MT stands for medium temperature grease and F7 & F9 gives the quantities of grease.
GJN7	Here GJN stands for high temperature grease and 7 for grease quantity.
J	Pressed steel cage.
Q	SKF TQ Line bearings come with a logarithmic contact profile that provides for optimum stress distribution over roller/raceway contacts. Special design of sliding surfaces of guide flange and large roller ends consid erably promotes lubricant film formation at roller end/flange contacts. Resulting benefits include increased operational reliability and reduced sensitivity to misalignment.

Internal clearance

The bearing internal clearance is defined as the total distance through which one bearing ring can be moved relative to the other under zero measuring load. Movement in the radial direction is called radial internal clearance; axial movement, axial internal clearance. The internal clearance is standardized.

Rolling bearings are delivered with different internal clearance. The internal clearance will vary from bearing type to bearing type. The most common clearance is NORMAL (with no suffix).

C1 = Bearing internal clearance smaller than C2
C2 = Bearing internal clearance smaller than normal
C3 = Bearing internal clearance greater than normal
C4 = Bearing internal clearance greater than C3
C5 = Bearing internal clearance greater than C4

Why internal clearance?

1. In order to fit a bearing tightly on a shaft it is necessary that the shaft is slightly larger than the bore of the inner ring. When the bearing is mounted, the inner ring will be expanded and consequently the space available for the rolling elements will be reduced. The reduction in space available for rolling elements when the bearing is mounted is accommodated by internal clearance

Radial internal clearance of electric motor bearings

1) Dreep groov ball bearing Unit : μm

Nominal bore diameter d , mm		Clearance	
		C M	
over	up to	min.	max.
10	18.	4	11
18	30	5	12
30	50	9	17
50	80	12	22
80	120	18	30
120	160	24	38

(Note) 10mm is included.

Remal To adjust for change of clearance due to measuring load, use correction values shown in Table 10-2.

2) Cylindrical roller bearing Unit : μm

Nominal bore diameter d , mm		Clearance			
		Interchangeability C T		Non-Interchangeability C M	
over	up to	min.	max.	min.	max.
24	40	15	35	15	30
40	50	20	40	20	35
50	65	25	45	25	40
65	80	30	50	30	45
80	100	35	60	35	55
100	120	35	65	35	60
120	140	40	70	40	65
140	160	50	85	50	80
160	180	60	95	60	90
180	200	65	105	65	100