

8. Bearing handling

8.1 Storage

The bearings should be stored:

- in dry, clean rooms with the temperature as constant as possible
- at a relative humidity of max. 65%.

The storage period for greased and sealed bearings is limited by the shelf life of the grease.

8.2 Removal from packaging

Perspiration from handling leads to corrosion. Hands should be kept clean and dry and gloves worn if necessary.

Bearings should only be removed from their original packaging immediately before assembly.

If only a few bearings are taken out of a multi-piece package preserved by volatile corrosion inhibitor paper, the package must be closed again immediately

- the protective vapour phase is only effective when the package is closed
- the bearings which have been taken out must be greased or oiled immediately.

9. Allowable speed

As bearing speed increases, the temperature of the bearing also increases due to friction heat generated in the bearing interior. If the temperature continues to rise and exceeds certain limits, the efficiency of the lubricant starts to fall down drastically, and the bearing can no longer continue to operate in a stable manner. Therefore, the maximum speed at which it is possible for the bearing to continuously operate without the generation of excessive heat beyond specified limits, is called the allowable speed (r/min). The allowable speed of a bearing depends on the type of bearing, bearing dimensions, type of cage, load, lubricating conditions, and cooling conditions.

The allowable speeds listed in the bearing tables for grease and oil lubrication are for NIKO track roller under normal operating conditions, correctly installed, using the suitable lubricants with adequate supply and proper maintenance. Moreover, these values are based on normal load conditions ($P \leq 0.09C$, $F_a/F_r \leq 0.3$). For track roller with contact seals, the allowable speed is determined by the peripheral lip speed of the seal.

For track roller to be used under heavier than normal load conditions, the allowable speed values listed in the bearing tables must be multiplied by an adjustment factor. The adjustment factors f_L and f_C are given in Figs. 9.1 and 9.2.

Under such high speed operating conditions, when special care is taken, the standard allowable speeds given in the bearing tables can be adjusted upward. The maximum speed adjustment values, f_E , by which the bearing table speeds can be multiplied, are shown in Table 9.1. However, for any application requiring speeds in excess of the standard allowable speed, please consult NIKO Engineering.

Fig.9.1 Value of adjustment factor f_L depends on bearing load

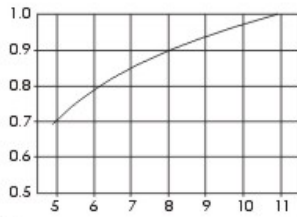
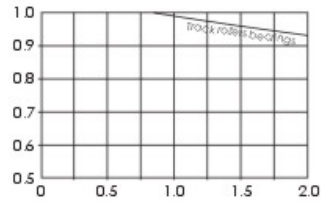


Fig.9.2 Value of adjustment factor f_c depends on combined load



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Table 9.1 Adjustment factor, f_s , for allowable number of revolutions

Type of bearing	Adjustment factor f_s
Track rollers bearings	2.0