2.7. Precision

2.7.1 Precision classes

NTN-SNR linear guides are produced in various precision classes. Each precision class has a maximum deviation for running parallelism and maximum dimensional deviations. (Figure 2.20).

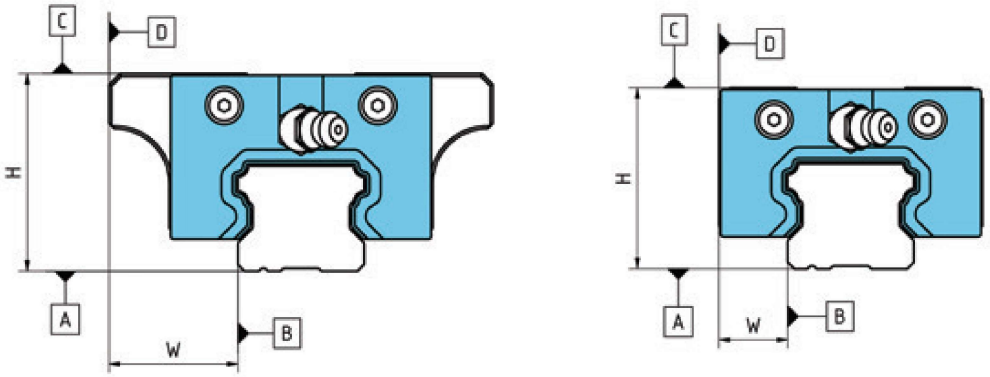

Figure 2.20 Precision classes

The running parallelism ΔC describes the maximum parallelism deviation between the top of the carriage and the bottom of the rail, relative to the length of the rail. ΔD is the the maximum parallelism deviation between the lateral reference surface of the carriage and the rail, relative to the length of the rail. The height tolerance is the maximum dimensional deviation of the height measurement H in the z-direction between the top of the carriage and the bottom of the rail. The maximum dimensional deviation between the lateral reference surface of the carriage and the rail in y-direction is the tolerance of the value W. The values for the individual precision classes are provided in Table 2.9 for the standard linear guides and in Table 2.10 for the miniature guides.

Table 2.9 Precision classes of the standard guides

	Normal precision (N)	H precision (H)	P precision (P)	Super precision (S)	Ultra precision (U)
Height tolerance (H)	± 0,1	± 0,04	0 -0,04	0 -0,02	0 -0,01
Width tolerance (W)	± 0,1	± 0,04	0 -0,04	0 -0,02	0 -0,01
Height difference (ΔH) *	0,03	0,02	0,01	0,005	0,003
Width difference (ΔW) *	0,03	0,02	0,01	0,005	0,003
Running parallelism between carriage surface C and the rail surface A	See Figure 2.21.				
Running parallelism between the carriage reference reference surface D and the rail reference surface B	See Figure 2.21.				

** between two carriages*

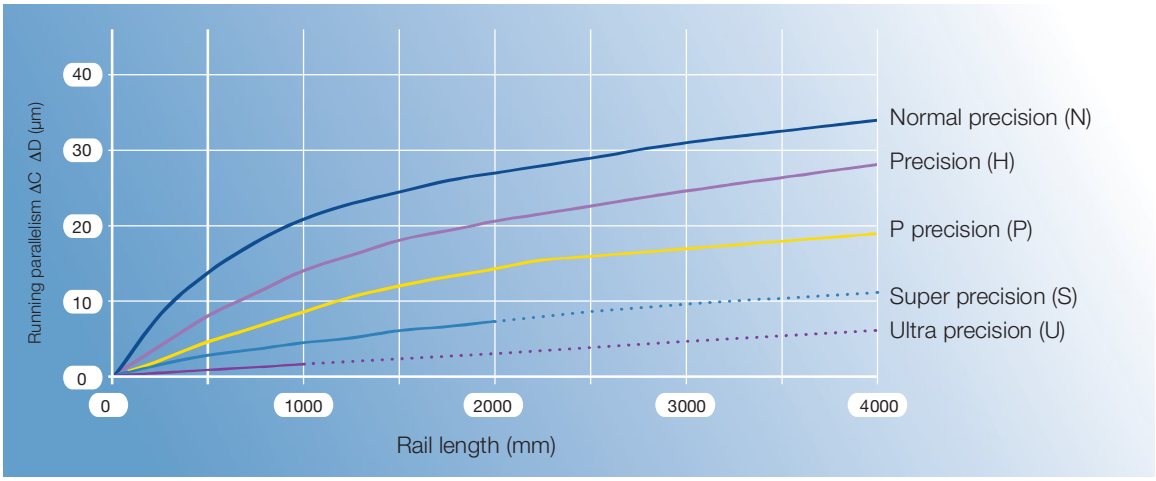

Figure 2.21 Running parallelism of the standard linearguides

Table 2.10 Precision classes of the miniature guides

	Normal precision (N)	H precision (H)	P precision (P)
Height tolerance (H)	± 0,04	± 0,02	± 0,01
Width tolerance (W)	± 0,04	± 0,025	± 0,015
Height difference (ΔH) *	0,03	0,015	0,007
Width difference (ΔW) *	0,03	0,02	0,01
Running parallelism between carriage surface C and the rail surface A	See Figure 2.22.		
Running parallelism between the carriage reference reference surface D and the rail reference surface B	See Figure 2.22.		

** between two carriages*

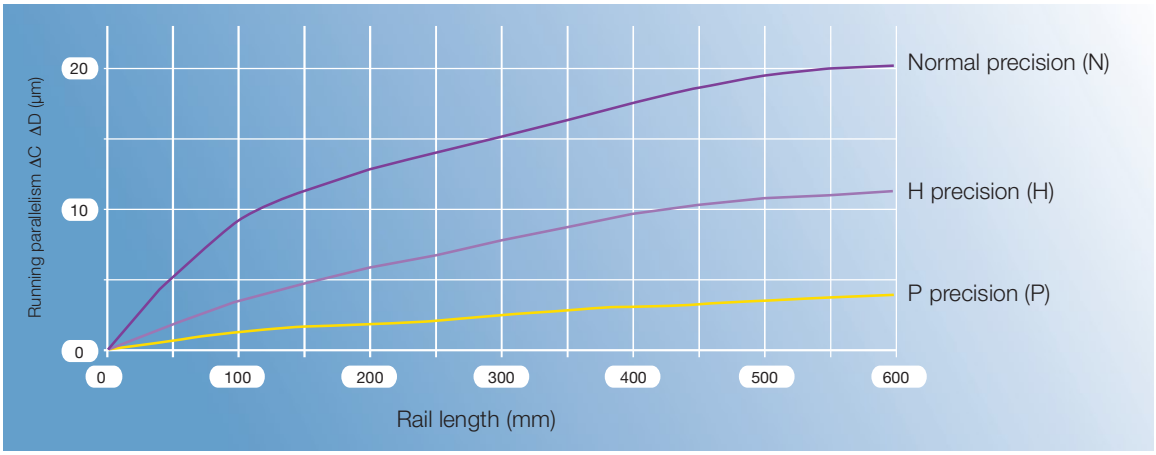

Figure 2.22 Running parallelism of the miniature guides