
**Rolling bearings — Profiled rail guides
for linear motion rolling bearings —**

Part 1:

**Boundary dimensions and tolerances for
series 1, 2 and 3**

*Roulements — Guidages sur rail profilé pour roulements pour
mouvement linéaire —*

*Partie 1: Dimensions d'encombrement et tolérances pour les séries 1, 2
et 3*



Reference number
ISO 12090-1:2011(E)

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6.2.2 Multi-piece profiled rails

For profiled rail guides with a long stroke, it may be necessary for the profiled rail to be manufactured in two or more pieces, which are placed end-to-end during installation.

Marking of the individual components and the establishment of the corresponding installation procedures are at the discretion of the manufacturer.

7 Tolerances

The tolerances for profiled rail guide are given in Table 7 and Figure 5.

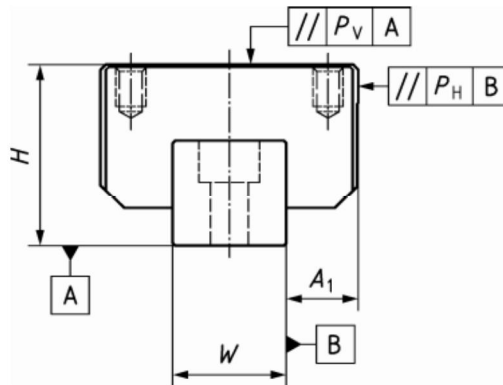


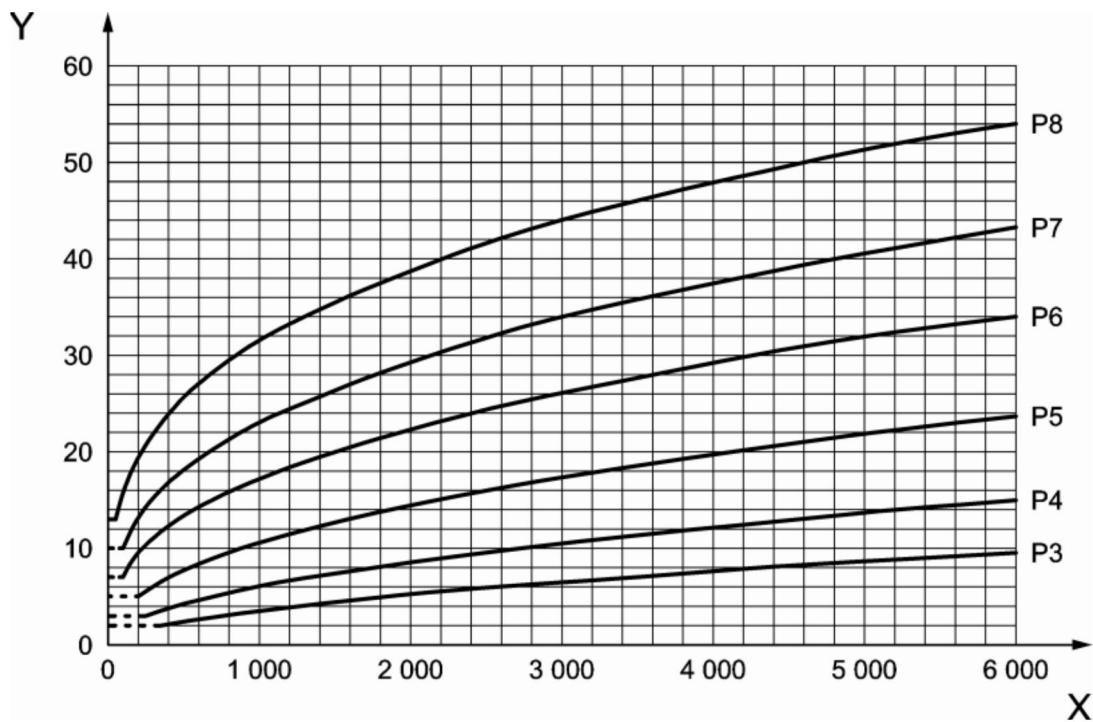
Figure 5 — Measurement guide for running parallelism

Table 7 — Tolerances for carriage and profiled rail guide

Dimensions and tolerance values in millimetres

Symbol	Dimension		Tolerance class					
	>	≤	P8	P7	P6	P5	P4	P3
ΔH^a	—	60	±0,12	±0,1	±0,05	±0,025	±0,015	±0,008
	60	—	±0,12	±0,1	±0,05	±0,025	±0,015	±0,015
V_H	—	60	0,06	0,03	0,015	0,01	0,005	0,003
	60	—	0,06	0,03	0,02	0,01	0,007	0,005
ΔA_1^a	—	60	±0,12	±0,1	±0,05	±0,025	±0,015	±0,01
	60	—	±0,12	±0,1	±0,07	±0,025	±0,025	±0,02
V_{A1}	—	60	0,06	0,03	0,02	0,015	0,007	0,003
	60	—	0,06	0,03	0,025	0,015	0,01	0,005
P_V maximum			See Figures 5 and 6					
P_H maximum			See Figures 5 and 6					

^a The deviation of the actual height, ΔH , and the deviation of the actual distance between the reference faces, ΔA_1 , are the dimensional differences between several carriages on one profiled rail, measured at the same point on the profiled rail and at the centre point of the top face or the reference face of the carriages.



Key

- X single-piece profiled rail length, in millimetres
- Y P_V and P_H , in micrometres

Figure 6 — Tolerances for P_V and P_H over a single-piece profiled rail length

Annex A (informative)

General length tolerances for profiled rails

Length tolerances of profiled rail are given in Table A.1.

Table A.1 — General length tolerances for profiled rails

Dimensions and tolerance values in millimetres

Nominal length of rail		Tolerance class
>	≤	All classes
—	6	±0,1
6	30	±0,2
30	120	±0,3
120	400	±0,5
400	1 000	±0,8
1 000	2 000	±1,2
2 000	3 000	±2