INTERNATIONAL STANDARD

ISO 12090-2

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

Part 2: Boundary dimensions and tolerances for series 4 and 5

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

Partie 2: Dimensions d'encombrement et tolérances pour les séries 4 et 5

Reference number
ISO 12090-2:2011(E)

Table 3 — Dimensions of series 5

Dimensions in millimetres

Size	W	H	A	A_1	H_1 min.	H_2 min.	B max.	J	J_1	G	J_2	J_3 min.	J_4	N_1 min.	N_2 min.	h min.	l_G min.
5W	10	6,5	17	3,5	1,4	2	24,5	13	—	M2,5[a]	20	5	—	2,9	4,8	1,6	1,5[a]
								—	6,5	M3[a]							2,3[a]
7W	14	9	25	5,5	1,7	1,8	32	19	10	M3	30	6	—	3,5	6	3,1	2,8
9W	18	12	30	6	2	2,5	40	21	12	M3	30	6	—	3,5	6	4,5	3
12W	24	14	40	8	2	3	46	28	15	M3	40	8	—	4,5	8	4,5	3,5
15W	42	16	60	9	3,2	4	57	45	20	M4	40	8	23	4,5	8	4,5	4

[a] The design is at the discretion of the manufacturer(s). Therefore, two different sizes for G and l_G, respectively, are usual.

6.2 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 guides are given in Table 4 and Figure 3.

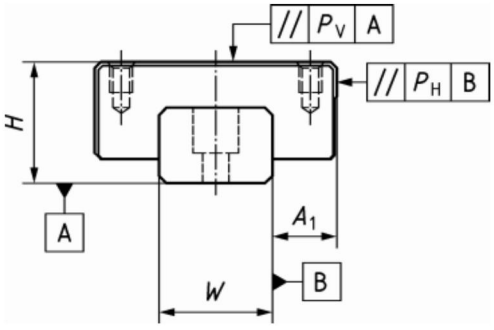


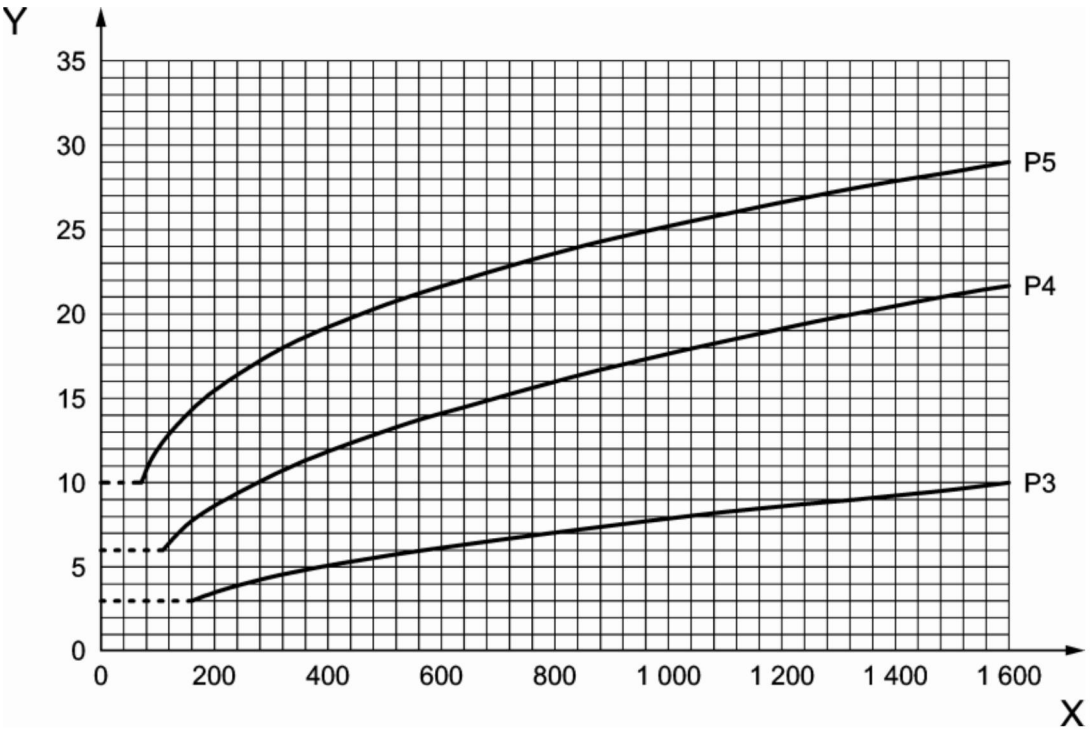
Figure 3 — Measurement guide for running parallelism

Table 4 — Tolerances for P_V and P_H over a single-piece profiled rail length

Dimensions and tolerance values in millimetres

Symbol	Dimension W	Tolerance class		
		P5	P4	P3
ΔH[a]	All sizes	±0,04	±0,02	±0,01
V_H	All sizes	0,03	0,015	0,007
ΔA_1[a]	All sizes	±0,04	±0,025	±0,015
V_{A1}	All sizes	0,03	0,02	0,01
P_V maximum		See Figures 3 and 4		
P_H maximum		See Figures 3 and 4		

[a] The deviation of the actual height, ΔH, and the deviation of the actual distance between the reference side 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 side face of the carriages.



Key

X single-piece profiled rail length, in millimetres

Y P_V and P_H, in micrometres

Figure 4 — Tolerances for P_V and P_H

Annex A
(informative)

General length tolerances for profiled rails

Tolerances for the lengths of a profiled rail are given in Table A.1.

Table A.1 — General length tolerances for profiled rails

Dimensions and tolerance values in millimetres

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