

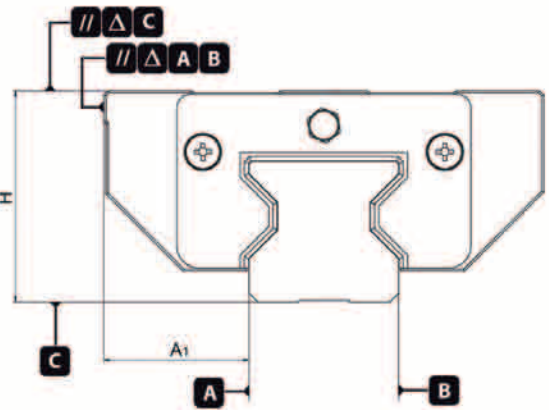
2.1 Accuracy classes and tolerances

The MG monorails are available in 4 accuracy classes: Q0, Q1, Q2, and Q3

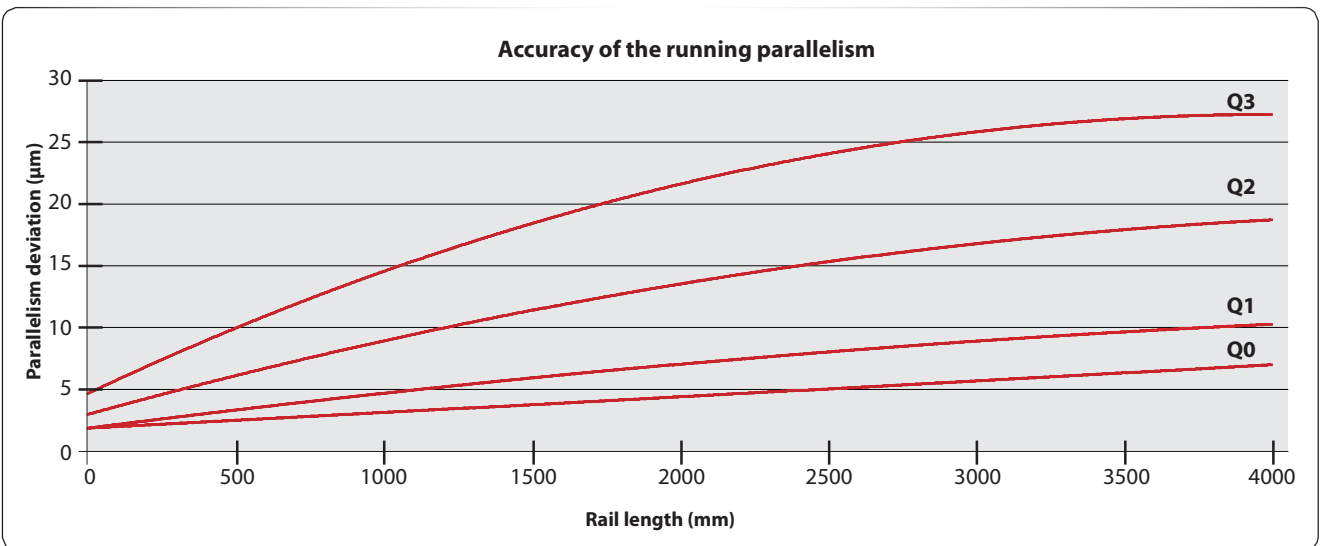
The tolerances in assembly dimensions are measured from the centre of the block and in the same position of the rail

The sliding accuracy of the carriage over the guide is measured from the centre of the carriage

Tolerances	Accuracy class			
	Q0	Q1	Q2	Q3
Tolerance on H dimension (variation ad to nominal dimension)	± 5 μm	± 10 μm	± 20 μm	± 30 μm
Tolerance on A1 dimension (variation ad to nominal dimension)	± 5 μm	± 7 μm	± 20 μm	± 20 μm
Variation on H dimension between block of the same rail	3 μm	5 μm	7 μm	15 μm
Variation on A1 dimension between block of the same rail	3 μm	5 μm	7 μm	15 μm
EA: (Extra coupling) maximum dimensions deviation between blocks of two or more parallel rails Δ H	standard	standard	standard	standard
	10 μm	20 μm	40 μm	60 μm
Parallelism deviation Δ C and Δ A-B	coupling	coupling	coupling	coupling
	5 μm	7 μm	10 μm	25 μm
See diagram below				



2.2 Sliding accuracy



2.3 Preload classes

The preload increases the stiffness of the guide, but influences the life and the resistance to the movement. The two preload classes that are suggested can meet the different application needs.

Preload class	Preload	Accuracy class
P2	$0.08 \cdot C$	Q0 Q1 Q2 Q3
P3	$0.13 \cdot C$	Q0 Q1 Q2 Q3

P2 for high stiffness with average-high loads and variable vibrations
 P3 for maximum stiffness with high impact stresses or vibrations and high loads/moments

2.4 Allowed acceleration and speed

Speed	$V_{\max} = 3 \text{ m/s}$
Acceleration	$a_{\max} = 50 \text{ m/s}^2$

Higher accelerations and speeds are possible according to preload, load, lubrication and assembly position values. In these cases, it is advisable to contact our engineering department.

2.5 Operating temperatures

Allowable operating temperatures	from $-10 \text{ }^{\circ}\text{C}$ to $+80 \text{ }^{\circ}\text{C}$
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2.6 Construction materials

Carriage:	Hardened alloy steel
Guide:	Hardened steel
Rollers:	Hardened bearing steel
Plastic parts:	POM - PEI GF30 - TPE

2.7 HCP anticorrosion coating

In case of particular applications, a thin hardened-chromium anticorrosion treatment is available.

HCP technical features:

- Thickness: 2-4 μm
- Surface with dull silver finish
- Untreated rolling elements and threads
- Maximum length of the guide to be treated: 2 m. In case of lengths longer than 2 m, use several in-line guides
- Available for accuracy classes Q1, Q2 and Q3