

Miniature Profile Rail Guides

Material: Rails: Stainless steel 1.4037. Guide Carriage: Stainless steel 1.4037 with return zones of POM. Balls: Stainless steel 1.4037. Seals: Polyurethane.



Technical Data:

- Structure: 4-point contact ball recirculation system with identical load angles and 2 ball recirculation paths per carriage for unlimited stroke.
- Product range: four different rail widths: 7, 9, 12, 15 mm with one or two carriages.
- Speed: Up to max. 3 m/s. Acceleration: Up to 80 m/s².
- Accuracy class: P5 (standard, for most applications).
- Preload class: T0 (standard, slight clearance).
Other accuracy classes and preload classes on request.
- Temperature range: -20°C to +80°C.

Use: e.g. for applications in the fields of precision engineering, medical engineering, electronics production and the optical industry. High load bearing capacity at a minimum of mounting space.

Compact: Simple design, compact and cost efficient.

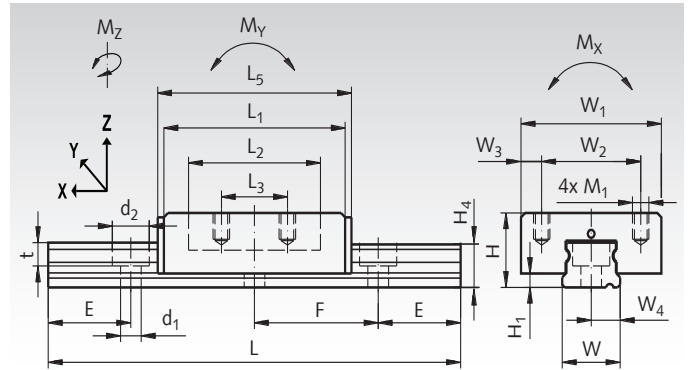
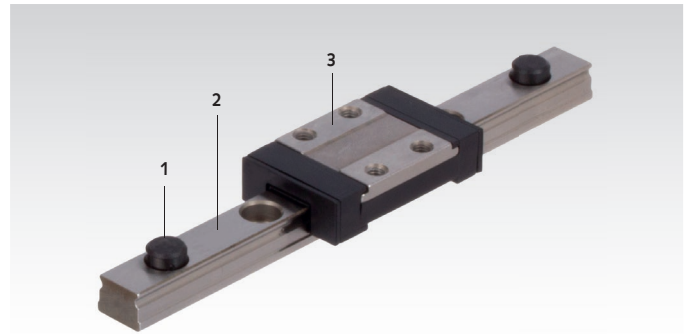
Fast: Ideal for linear movements up to 3 m/s.

Durability: Due to the pointed-arch shaped raceways, the carriages can take up loads and torques acting in any direction. High load bearing capacity and long service life.

Corrosion-resistant: All components are made from rust-resistant steel or of plastic.

Easy maintenance: Easily relubricatable through lubrications holes located in the end pieces of the carriage.

Lubrication and Sealing: Delivery prelubricated and ready for mounting. The individual carriages can be relubricated through lubrication holes located at the face side. The lubrication intervals depend on the distance travelled, the cycles and ambient conditions.



Ordering Details: e.g.: Product No. 649 010 71, Miniature Profile Guide Rails, 100 mm long, 1 Carriage

Product No. Complete	Rail Width W mm	Rail Length mm	No. of carriages Pcs.	E mm	Weight g	Spare part / Additional Product No. Carriage	Weight g
649 010 71	7	100	1	5,0	29	649 010 79	10
649 010 73	7	300	1	7,5	67	649 010 79	10
649 020 73	7	300	2	7,5	77	649 010 79	10
649 010 75	7	500	1	2,5	105	649 010 79	10
649 020 75	7	500	2	2,5	115	649 010 79	10
649 010 91	9	100	1	10,0	51	649 010 99	20
649 010 93	9	300	1	10,0	113	649 010 99	20
649 020 93	9	300	2	10,0	133	649 010 99	20
649 010 95	9	500	1	10,0	175	649 010 99	20
649 020 95	9	500	2	10,0	195	649 010 99	20
649 011 23	12	300	1	12,5	216	649 011 29	30
649 021 23	12	300	2	12,5	246	649 011 29	30
649 011 24	12	400	1	12,5	278	649 011 29	30
649 021 24	12	400	2	12,5	308	649 011 29	30
649 011 25	12	500	1	12,5	340	649 011 29	30
649 021 25	12	500	2	12,5	370	649 011 29	30
649 011 53	15	300	1	10,0	366	649 011 59	60
649 021 53	15	300	2	10,0	426	649 011 59	60
649 011 54	15	400	1	20,0	470	649 011 59	60
649 021 54	15	400	2	20,0	530	649 011 59	60
649 011 56	15	600	1	20,0	672	649 011 59	60
649 021 55	15	600	2	20,0	732	649 011 59	60

Demounting and Mounting of the Carriages

The system is premounted when delivered. To demount the system please regard the following instructions:

- Remove the end stop (1) from the rail.
- Position the mounting rail at the end of the rail (2), make sure there is no misalignment or gap.
- Move the carriage (3) from the rail onto the mounting rail while keeping both rails firm in position. For mounting the carriage on the rail, please proceed in reverse order.

Attention: please always use the enclosed mounting rail, as otherwise the ball retention inside the carriage is not guaranteed.

Dimensions and Performance Values

Rail Width W mm	d ₁ x d ₂ x t mm	F mm	H mm	H ₁ mm	H ₄ mm	L ₁ mm	L ₂ mm	L ₃ mm	L ₅ mm	M ₁ mm	Fastening Torque Nm
7	2,5 x 4,5 x 2,5	15	8	1,5	4,8	22	16,0	8	23,5	M2 x 2,5	0,32
9	3,5 x 6,0 x 3,5	20	10	2	6,5	30	21,5	10	32,0	M3 x 3,0	1,1
12	3,5 x 6,0 x 4,5	25	13	3	8,8	33	23,0	15	36,0	M3 x 3,5	1,1
15	3,5 x 6,0 x 4,5	40	16	4	10,8	41,5	29,5	20	44,5	M3 x 4,0	1,1

Rail Width W mm	W ₁ mm	W ₂ mm	W ₃ mm	W ₄ mm	Dyn. Load C kN	Stat. Load C ₀ kN	Stat. Torque M _x Nm	Stat. Torque M _y Nm	Stat. Torque M _z Nm
7	17	12	2,5	3,5	0,86	1,67	5,2	4,9	4,9
9	20	15	2,5	4,5	1,85	3,13	13,2	11,2	11,2
12	27	20	3,5	6,0	2,55	4,00	21,7	15	15
15	32	25	3,5	7,5	2,88	5,39	40,2	21	21