

## Miniature Profile Rail Guides HQ

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

Seals: Polyurethane.

Lubrication: Oil with FDA registration.



### 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. 5 m/s. Acceleration: Up to 140 m/s<sup>2</sup>.
- Accuracy class: H (standard, for most applications).
- Preload class: Z0 (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.

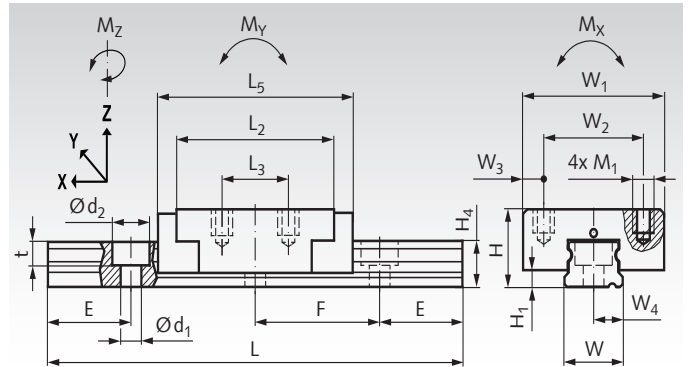
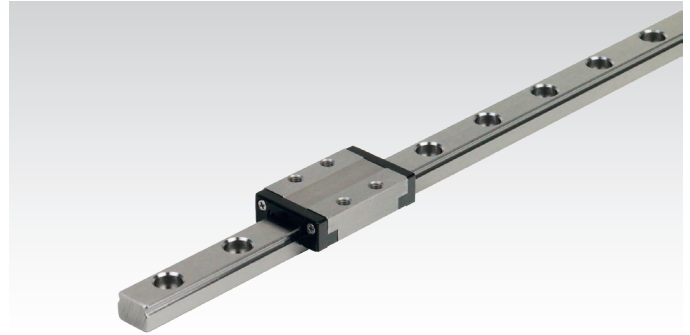
**Fast:** Ideal for linear movements up to 5 m/s.

**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.

**Low maintenance:** Extremely long relubrication intervals.

**Lubrication and Sealing:** Delivery prelubricated and ready for mounting. Integrated lubrication reservoir for service life up to 20,000 km travel. 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. 649 705 50, Miniature Profile Guide Rail HQ, 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
649 705 50	7	100	1	5,0	33	649 705 59	10
649 705 51	7	300	1	7,5	79	649 705 59	10
649 705 52	7	300	2	7,5	89	649 705 59	10
649 705 53	7	500	1	2,5	125	649 705 59	10
649 705 54	7	500	2	2,5	135	649 705 59	10
649 705 60	9	100	1	10,0	60	649 705 69	20
649 705 61	9	300	1	10,0	140	649 705 69	20
649 705 62	9	300	2	10,0	160	649 705 69	20
649 705 63	9	500	1	10,0	220	649 705 69	20
649 705 64	9	500	2	10,0	240	649 705 69	20
649 705 70	12	300	1	12,5	265	649 705 79	40
649 705 71	12	300	2	12,5	305	649 705 79	40
649 705 72	12	400	1	12,5	340	649 705 79	40
649 705 73	12	400	2	12,5	380	649 705 79	40
649 705 74	12	500	1	12,5	415	649 705 79	40
649 705 75	12	500	2	12,5	455	649 705 79	40
649 705 80	15	300	1	10,0	405	649 705 89	90
649 705 81	15	300	2	10,0	495	649 705 89	90
649 705 82	15	400	1	20,0	510	649 705 89	90
649 705 83	15	400	2	20,0	600	649 705 89	90
649 705 84	15	600	1	20,0	720	649 705 89	90
649 705 85	15	600	2	20,0	810	649 705 89	90

### Demounting and Mounting of the Carriages

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

- The carriages have an integrated ball retention system to prevent the balls from falling out.
- Move the carriage (1) from the rail (2).
- For mounting the carriage on the rail, please proceed in reverse order.

## Dimensions and Performance Values

Rail Width W mm	d <sub>1</sub> x d <sub>2</sub> x t mm	F mm	H mm	H <sub>1</sub> mm	H <sub>4</sub> mm	L <sub>2</sub> mm	L <sub>3</sub> mm	L <sub>5</sub> mm	M <sub>1</sub> mm	Fastening Torque Nm
7	2,5 x 4,5 x 2,5	15	8	1,5	4,8	18	8	23,5	M2 x 2,5	0,32
9	3,5 x 6,0 x 3,5	20	10	2,35	6,5	25	10	31	M3 x 3,0	1,1
12	3,5 x 6,0 x 4,5	25	13	3,35	8,8	29	15	35	M3 x 3,5	1,1
15	3,5 x 6,0 x 4,5	40	16	4,0	9,5	37	20	44	M3 x 4,0	1,1

Rail Width W mm	W <sub>1</sub> mm	W <sub>2</sub> mm	W <sub>3</sub> mm	W <sub>4</sub> mm	Dyn. Load C kN	Stat. Load C <sub>0</sub> kN	Stat. Torque M <sub>x</sub> Nm	Stat. Torque M <sub>y</sub> Nm	Stat. Torque M <sub>z</sub> Nm
7	17	12	2,5	3,5	1,147	1,461	4,6	2,65	2,65
9	20	15	2,5	4,5	2,138	2,795	11,5	7,5	7,5
12	27	20	3,5	6,0	3,148	3,893	21,5	11,8	11,8
15	32	25	3,5	7,5	4,903	5,844	38,8	23,9	23,9