

GST

MINIATURE LINEAR GUIDE

An economical alternative to conventional miniature linear guides. Available in five sizes and lengths up to 3600mm. The compact design is ideal in small footprint applications such as: packaging, clean rooms, x-y gantry systems, medical devices and material handling.

 Available in five (5) sizes with lengths up to 3600mm

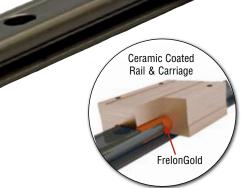
• Self-lubricating FrelonGOLD® Liner Maintenance Free

• Corrosion-resistant Ideal in Harsh Environments

 Fully Interchangeable Industry standard sizes

• No Rolling Elements
No catastrophic failure

• Compact Design, Small Footprint Saves space



Precision Series .025 - .051mm Running Clearance

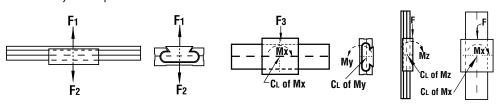


Compensated Precision Serie .064 - .089mm Running Clearanc



STATIC LOAD DATA

The numbers below are for rails in a static condition. Refer to the calculations below to establish dynamic parameters.



SIZE	F1 (N)	F1 (N)*	F ₂ (N)	F3 (N)	Mx (N-m)	My (N-m)	Mz (N-m)	Mx (N-m)	My (N-m)	Mz (N-m)
7	445	734	89	133	2.3	1.8	1.8	2.3	1.8	1.8
9	667	1557	125	222	5.0	3.2	3.2	5.0	3.2	3.2
12	1334	1957	222	400	9.0	5.6	5.6	9.0	5.6	5.6
15	2224	3114	356	667	15.1	9.0	9.0	15.1	9.0	9.0
20	3559	6005	578	1112	24 9	147	147	24 9	147	14 7

^{*}Max static load in Newtons.

Mini-Rail is offered in two design configurations:

Precision Series

Ceramic coated rails and carriages are corrosion resistant. FrelonGold® self-lubricating liner delivers the best overall performance, the highest loads, the best wear life and speeds. Most precise running clearance for high precision applications.

Compensated Precision

Same as Precision Series except with additional clearance provided to tolerate misalignment.

PERFORMANCE RATINGS FOR LINEAR MOTION

Plane bearings are rated by their limiting PV, which is a combination of load over a given surface area and the velocity.

PV = The performance measurement of plane bearings.

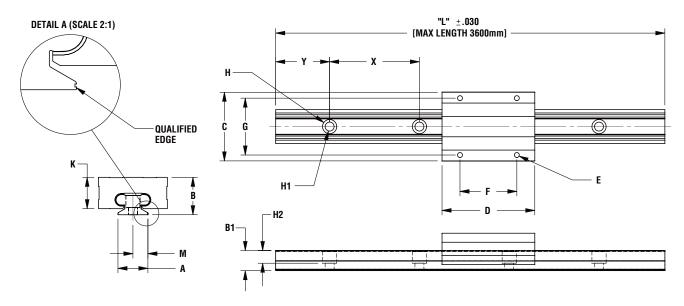
PV = P x V, where P = pressure (load) in psi (kgf/cm²)

V = velocity (speed) in sfm (m/min.)

NOTE: All three parameters must be met by an application for the bearing to perform properly.

BEARING MATERIAL	MAX. "PV"	MAX. "P"	MAX. "V" (NO LUBRICATION)			
FrelonGold®	20,000 (psi x ft./min.)	3000 psi	300 sfm			
	or	or	or			
	0.7 N/m ² x m/s	20.68 N/mm ²	1.524 m/s			
FrelonJ®	10,000 (psi x ft./min.)	1500 psi	140 sfm			
	or	or	or			
	0.35 N/m ² x m/s	10.34 N/mm ²	0.711 m/s			

DIMENSIONAL INFORMATION



(Maximum Length 3600mm)

Part Number	Running Clearance	A	В	B1	С	D	E		F	G	Н	H1	H2	K	М	у	X	Rail wt. (gram/mm)	Carriage wt. (gram)
MR7-XXX	.025051	7	8	6.1	17	24	M2 x 0.4	THRU	8	12	4.2	2.4	2.3	6.2	3.5	5	15	0.10	5.7
MRC7-XXX	.064089	7	8	6.1	17	24	M2 x 0.4	THRU	8	12	4.2	2.4	2.3	6.2	3.5	5	15	0.10	5.7
MR9-XXX	.025051	9	10	7.1	20	30	M3 x 0.5	THRU	13	15	4.5	2.6	3	8.0	4.5	7.5	20	0.16	8.5
MRC9-XXX	.064089	9	10	7.1	20	30	M3 x 0.5	THRU	13	15	4.5	2.6	3	8.0	4.5	7.5	20	0.16	8.5
MR12-XXX	.025051	12	13	8.0	27	34	M3 x 0.5	THRU	15	20	6	3.5	3.5	10.7	6	10	25	0.22	20.0
MRC12-XXX	.064089	12	13	8.0	27	34	M3 x 0.5	THRU	15	20	6	3.5	3.5	10.7	6	10	25	0.22	20.0
MR15-XXX	.025051	15	16	9.2	32	42	M3 x 0.5	THRU	20	25	6	3.5	4.5	14.1	7.5	15	40	0.38	34.0
MRC15-XXX	.064089	15	16	9.2	32	42	M3 x 0.5	THRU	20	25	6	3.5	4.5	14.1	7.5	15	40	0.38	34.0
MR20-XXX	.025051	20	25	13.4	46	62	M4 x 0.7	12.5	38	38	9.5	6	8.5	21.2	10	20	60	0.48	127.9
MRC20-XXX	.064089	20	25	13.4	46	62	M4 x 0.7	12.5	38	38	9.5	6	8.5	21.2	10	20	60	0.48	127.9

NOTES: Add the overall length of the rail to the part number (EXAMPLE "MR12-220" for a Precision Series assembly with a 220mm long rail)

Cut-to-length rails are available up to 3600mm. Standard and cut-to-length rail ends are NOT coated. Fully coated rails are available upon request.

All carriage mounting holes are through tapped except MR20 12.5mm of thread.

The "S" dimension will remain constant at one end unless requested otherwise.

ORDER INFORMATION

