

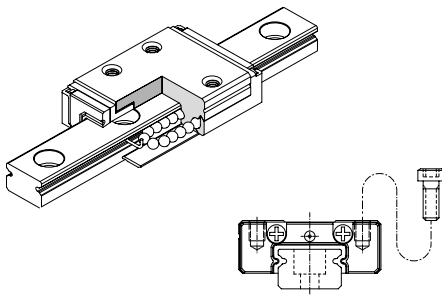
MSC Miniature & MSD Miniature Type Linear Rail

Carriage Types:

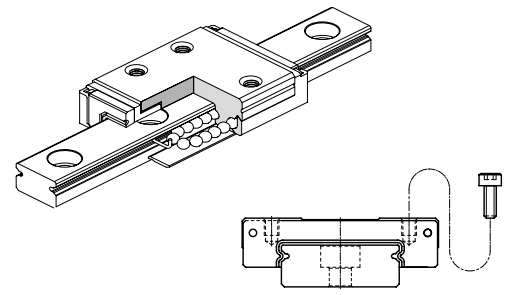
MSC-M Type

Medium Load

MSD-M Type



Standard length miniature carriage with four fixing holes from above.

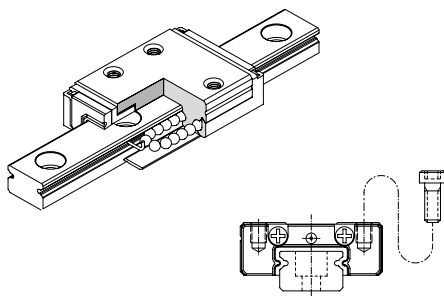


Standard length wide miniature carriage with four fixing from above.

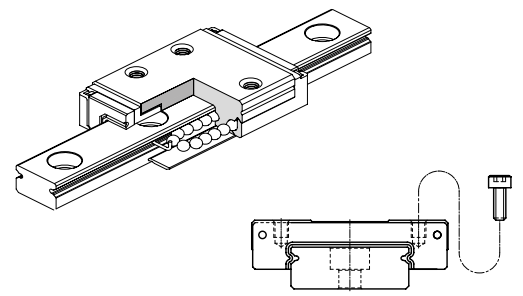
MSC-LM Type

Heavy Load

MSD-LM Type

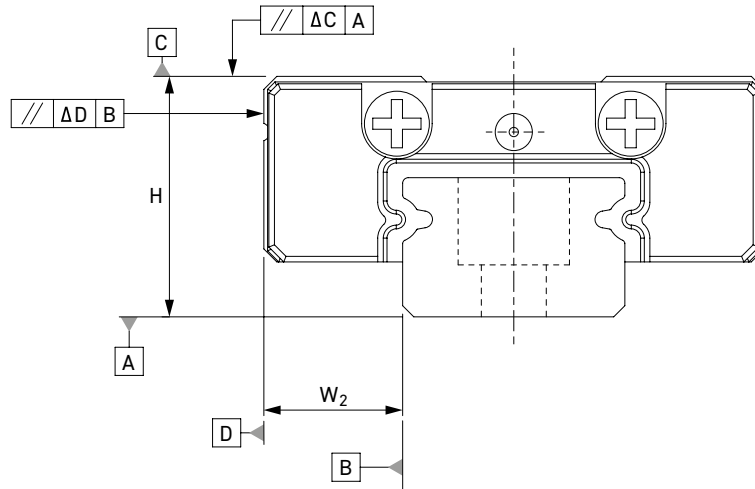


Long length miniature carriage with increased load capacity with fixing from above.



Long length wide miniature carriage with increased load capacity with fixing from above.

MSC/MSD Accuracy Grade

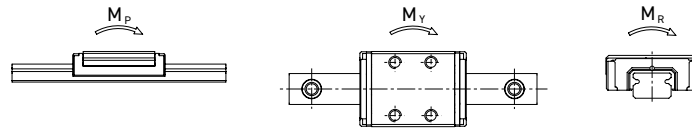
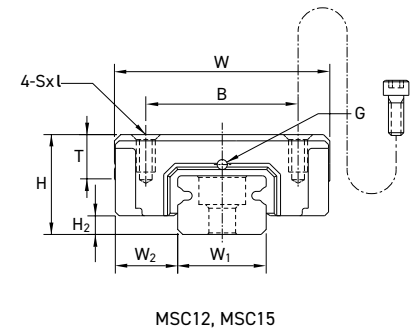
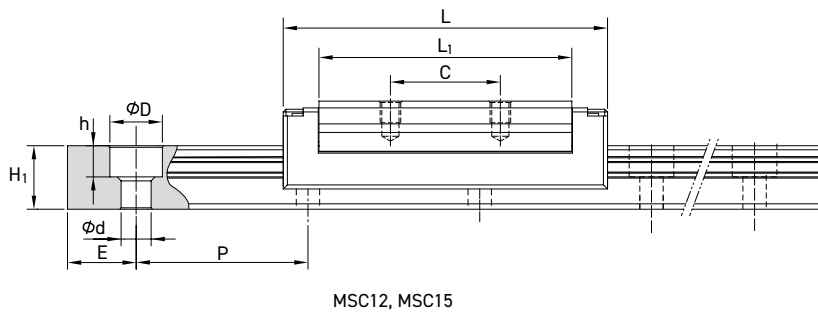
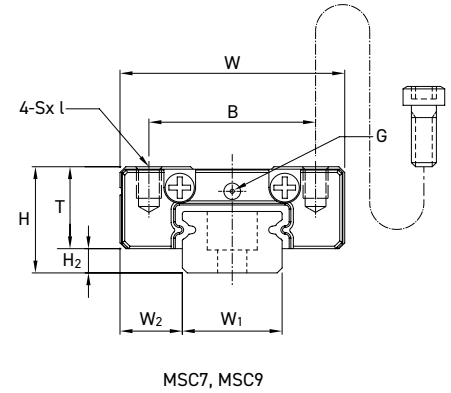
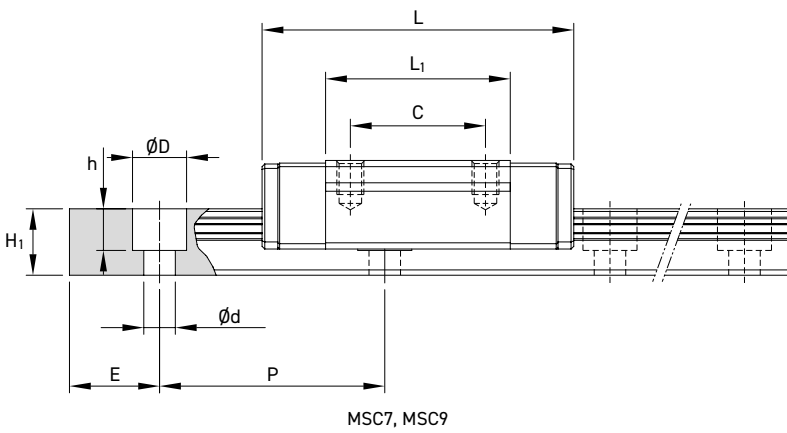


Rail Length (mm)		Running Parallelism Values (μm)		
Above	Or less (incl.)	N	H	P
-	40	8	4	1
40	70	10	4	1
70	100	11	4	2
100	130	12	5	2
130	160	13	6	2
160	190	14	7	2
190	220	15	7	3
220	250	16	8	3
250	280	17	8	3
280	310	17	9	3
310	340	18	9	3
340	370	18	10	3
370	400	19	10	3
400	430	20	11	4
430	460	20	12	4
460	490	21	12	4
490	520	21	12	4
520	550	22	12	4
550	580	22	13	4
580	610	22	13	4
610	640	22	13	4
640	670	23	13	4
670	700	23	13	5
700	730	23	14	5
730	760	23	14	5
760	790	23	14	5

Rail Length (mm)		Running Parallelism Values (μm)		
Above	Or less (incl.)	N	H	P
790	820	23	14	5
820	850	24	14	5
850	880	24	15	5
880	910	24	15	5
910	940	24	15	5
940	970	24	15	5
1000	1030	25	16	5
1030	1060	25	16	6
1060	1090	25	16	6
1090	1120	25	16	6
1120	1150	25	16	6
1150	1180	26	17	6
1180	1210	26	17	6
1210	1240	26	17	6
1240	1270	26	17	6
1270	1300	26	17	6
1300	1330	26	17	6
1330	1360	27	18	6
1360	1390	27	18	6
1390	1420	27	18	6
1420	1450	27	18	7
1450	1480	27	18	7
1480	1510	27	18	7
1510	1540	28	19	7
1540	1570	28	19	7
1570	1800	28	19	7

Model No.	Item	Running Parallelism Values (μm)		
		Normal N	High H	Precision P
15 20	Tolerance for height H	±0.04	±0.02	±0.01
	Height difference ΔH	0.03	0.015	0.007
	Tolerance for distance W ₂	±0.04	±0.025	±0.015
	Difference in distance W ₂ (ΔW ₂)	0.03	0.02	0.01
	Running parallelism of surface C with surface A	ΔC (see the Table Above)		
Running parallelism of surface D with surface B	ΔD (see the Table Above)			

MSC-LM/ MSC-M Carriage and Rail Dimensions



Unit: mm

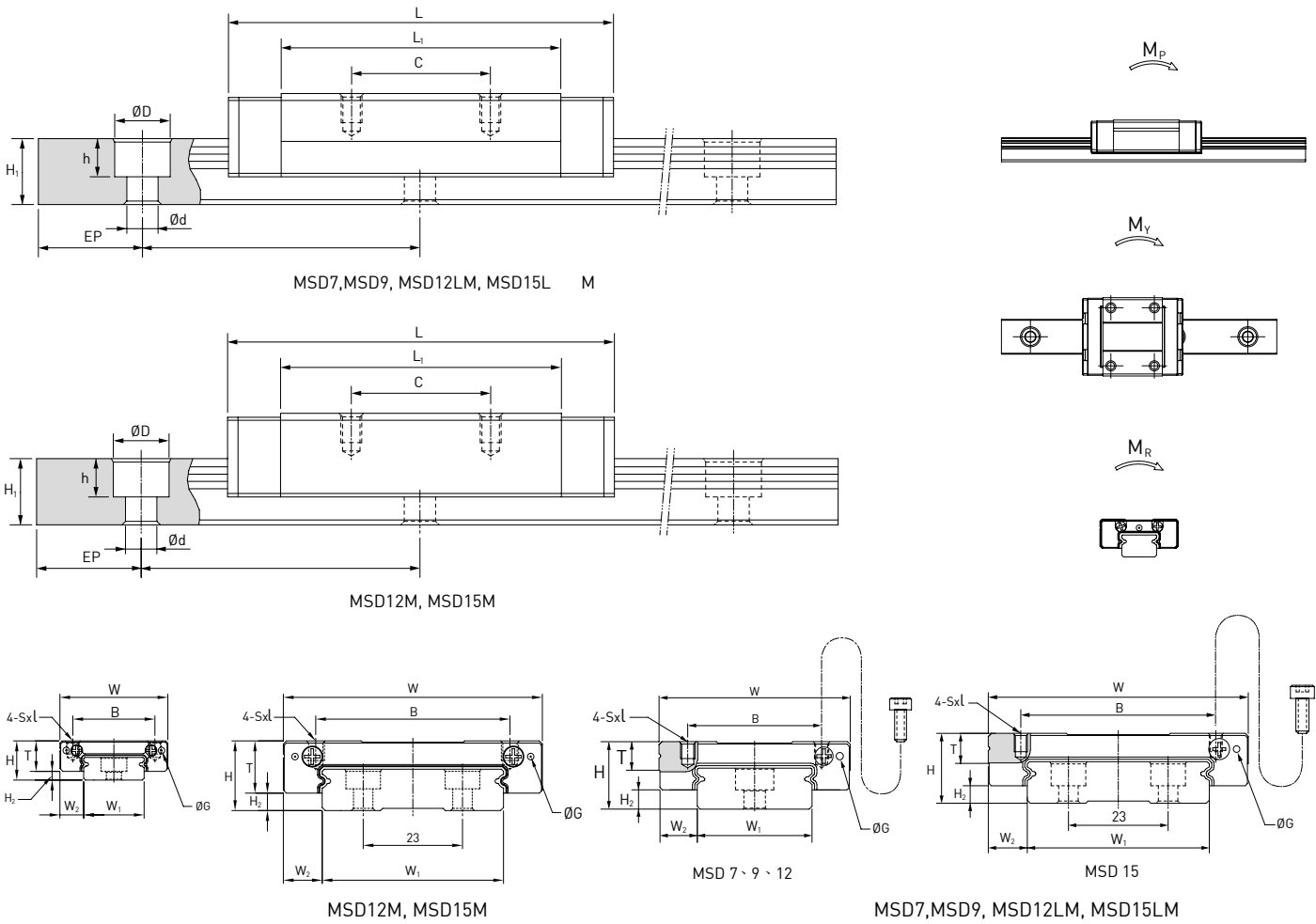
Model No.	External Dimension					Carriage Dimensions					
	H	W	L	W ₂	H ₂	B	C	S × l	L ₁	T	G
MSC 7 M MSC 7 LM	8	17	23.6 33.0	5	1.5	12	8 13	M2×2.5	13.5 22.9	6.5	Ø0.8
MSC 9 M MSC 9 LM	10	20	31.1 41.3	5.5	2.2	15	10 16	M3×3	19.9 30.1	7.8	Ø1
MSC 12 M MSC 12 LM	13	27	34.6 47.6	7.5	3	20	15 20	M3×3.6	27.9 40.9	6	Ø1.5
MSC 15 M MSC 15 LM	16	32	43.5 60.5	8.5	4	25	20 25	M3×4.2	36 53.1	7	G-M3

Model No.	Rail Dimension					Basic Load Rating		Static Moment Rating				Weight			
	W ₁	H ₁	P	E _{std.}	D × h × d	Dynamic C kN	Static C ₀ kN	M _p N-m		M _y N-m		M _R kN-m	Carriage kg	Rail kg/m	
								Single*	Double*	Single*	Double*				
MSC 7 M MSC 7 LM	7	0 -0.05	4.7	15	5	4.2×2.3×2.4	0.94 1.36	1.28 2.24	2.6 7.4	15.33 37.92	2.6 7.4	15.33 37.92	4.7 8.3	7 13	0.22
MSC 9 M MSC 9 LM	9	0 -0.05	5.5	20	7.5	6×3.3×3.5	1.71 2.52	2.24 3.92	6.1 17.4	33.46 84.63	6.1 17.4	33.46 84.63	10.8 18.8	15 24	0.33
MSC 12 M MSC 12 LM	12	0 -0.05	7.5	25	10	6×4.5×3.5	2.62 3.77	3.52 5.72	11.4 28.3	63.96 141.52	11.4 28.3	63.96 141.52	22.2 36.0	40 60	0.63
MSC 15 M MSC 15 LM	15	0 -0.05	9.5	40	15	6×4.5×3.5	4.52 6.47	5.70 9.26	24.7 61.0	132.17 295.87	24.7 61.0	132.17 295.87	44.4 72.2	71 100	1.02

Note: The basic dynamic load rating C of ball type is based on the 50 km for nominal life.
The conversion between C for 50 km and C100 for 100 km is C=1.26 × C100.

Note*: Single: Single carriage/ Double: Two carriages in close proximity to one another.

MSD-LM/ MSD-M Carriage and Rail Dimensions



Unit: mm

Model No.	External Dimension					Carriage Dimensions					
	H	W	L	W ₂	H ₂	B	C	S × l	L ₁	T	G
MSD 7 M MSD 7 LM	9	25	30.8 40.5	5.5	2	19	10 19	M3×3	20.6 30.3	3.9	Ø1.5
MSD 9 M MSD 9 LM	12	30	38.7 50.7	6	3.7	21 23	12 24	M3×3	27.1 39.1	5	Ø1.5
MSD 12 M MSD 12 LM	14	40	44.5 60	8	4	28	15 28	M3×4	31.0 46.5	10.6	Ø1.5
MSD 15 M MSD 15 LM	16	60	55.5 74.5	9	4	45	20 35	M4×4.5	40.3 59.3	12.7	Ø1.5

Model No.	Rail Dimension					Basic Load Rating		Static Moment Rating				Weight			
	W ₁	H ₁	P	E _{std.}	D × h × d	Dynamic C kN	Static C ₀ kN	M _p N-m		M _y N-m		M _R kN-m	Carriage kg	Rail kg/m	
								Single*	Double*	Single*	Double*				
MSD 7 M MSD 7 LM	14	0 -0.05	5.2	30	10	6×3.2×3.5	1.51 2.04	2.46 3.79	6.6 17.5	39.0 84.0	6.6 17.5	39.0 84.0	17.7 27.3	23 31	0.55
MSD 9 M MSD 9 LM	18	0 -0.05	7	30	10	6×4.5×3.5	2.79 3.64	4.37 6.39	15.6 33.8	90.3 175.2	15.6 33.8	90.3 175.2	40.7 59.5	41 57	0.96
MSD 12 M MSD 12 LM	24	0 -0.05	8.5	40	15	8×4.5×4.5	4.05 5.28	6.20 9.06	26.3 57.0	151.5 294.4	26.3 57.0	151.5 294.4	76.3 116.6	70 101	1.55
MSD 15 M MSD 15 LM	42	0 -0.05	9.5	40	15	8×4.5×4.5	7.08 9.40	10.18 15.26	62.5 135.2	301.4 616.1	62.5 135.2	301.4 616.1	216.9 325.3	130 150	2.99

Note: The basic dynamic load rating C of ball type is based on the 50 km for nominal life. The conversion between C for 50 km and C100 for 100 km is C=1.26 × C100.

Note*: Single: Single carriage/ Double: Two carriages in close proximity to one another.