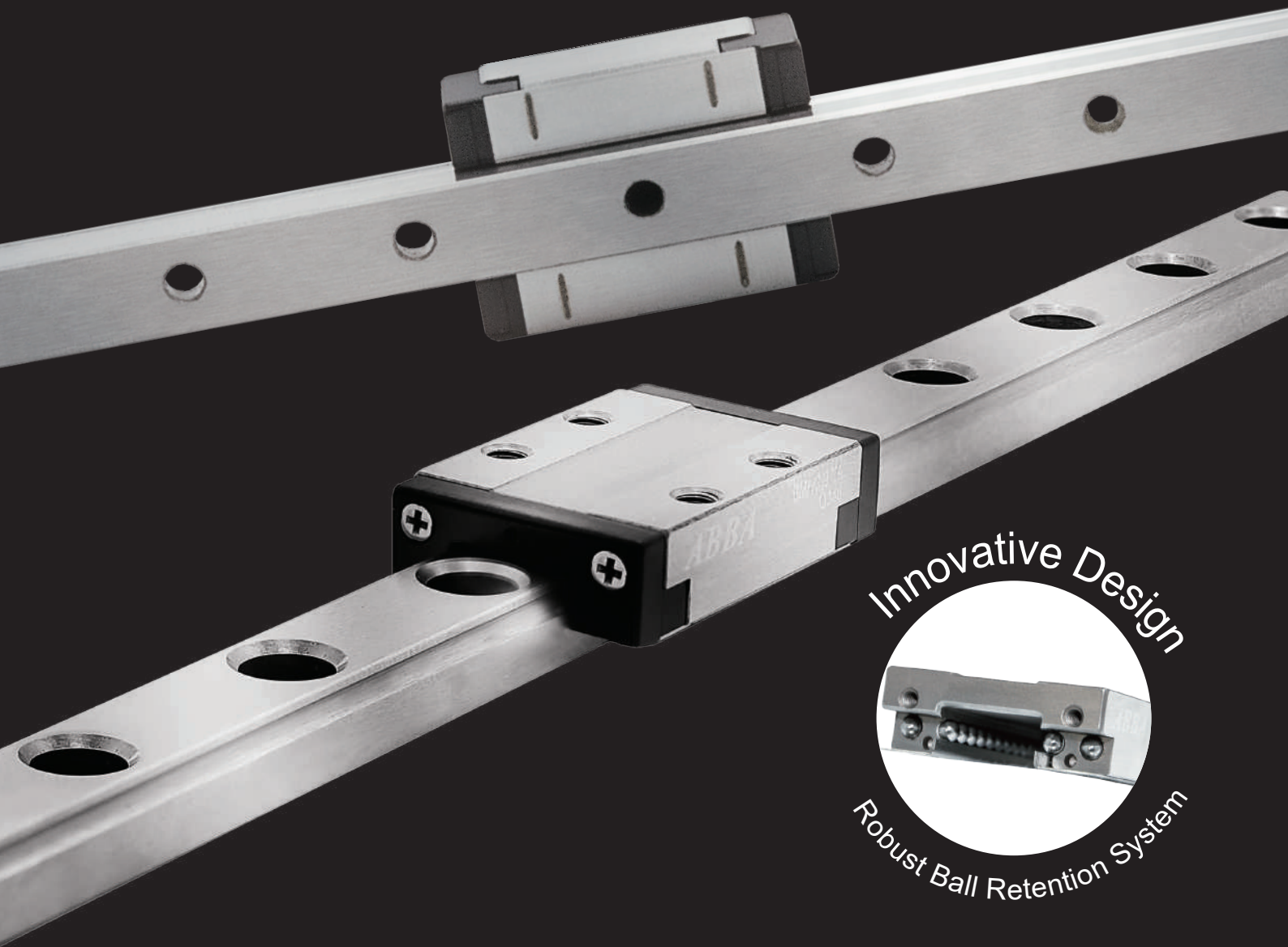




An Ewellix company

# BM Series

## Miniature Linear Guide



Innovative Design

Robust Ball Retention System



Low Noise  
Green Product



Self Lubrication  
Long Service Life

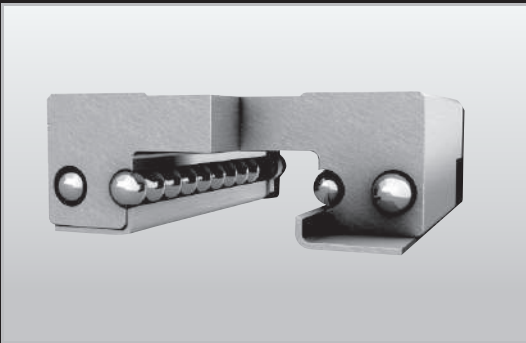


Smooth Running  
High Position Accuracy

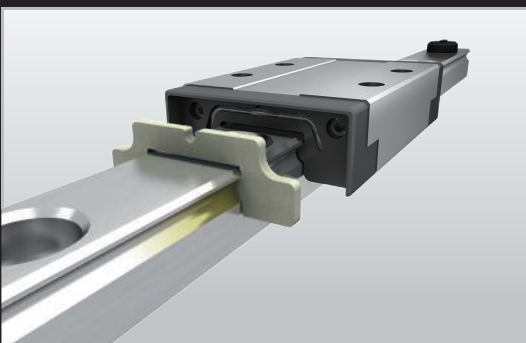
# Benefits

- Robust and compact design
- Smooth running for position accuracy
- Long service life
- Low noise level
- Low installation and maintenance outlay
- Interchangeability for H grade of blocks and rails

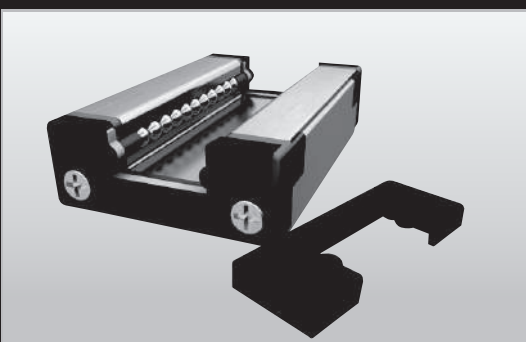
## Robust ball retention system



## Lubrication reservoir



## Optimized seal design



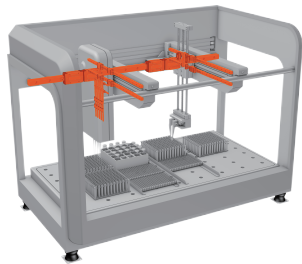
# Features

- Safe and quick mounting due to innovative robust ball retention system
- Optimized ball recirculation for smooth running and high accuracy
- To maximize the maintenance-free operation, all BM blocks are factory pre-lubricated and equipped with a lubrication reservoir which secures the lubrication condition in the complete guiding system.
- New and optimized seal design
- Reduced friction
- High dynamic values: speed  $v = 5 \text{ m/s}$ , acceleration  $a = 140 \text{ m/s}^2$
- Miniature BM series has two accuracy options: Precision (P), High (H)
- Stainless steel components
- Interchangeable according to ISO 12090-2
- RoHS and REACH conform

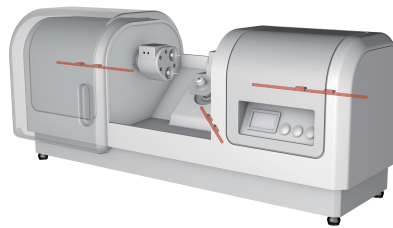
# Applications

Minimal service requirements combined with low friction and silent running, the new BM series provides high performance for medical applications.

- Laboratory analyzer
- Minislides in automation
- 3D-Printing machine
- Laboratory machine tool
- Engraving machine
- Dental equipment



Laboratory machine tool



Dental equipment



3D-Printing machine

# Accuracy

## Running parallelism

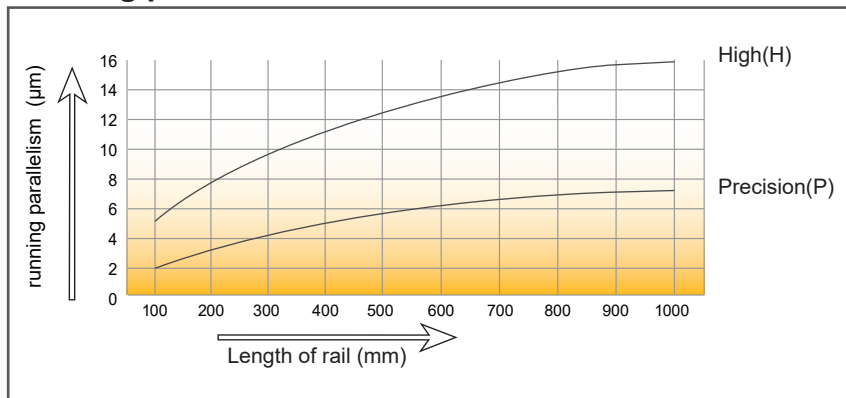


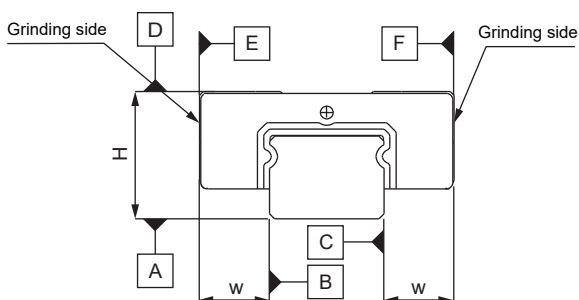
Figure 1

\* The tolerances apply over the entire guide length for any combination of block and rail.

\*\*The tolerance  $\Delta H$  and  $\Delta W$  relate to the ideal centre of the block.

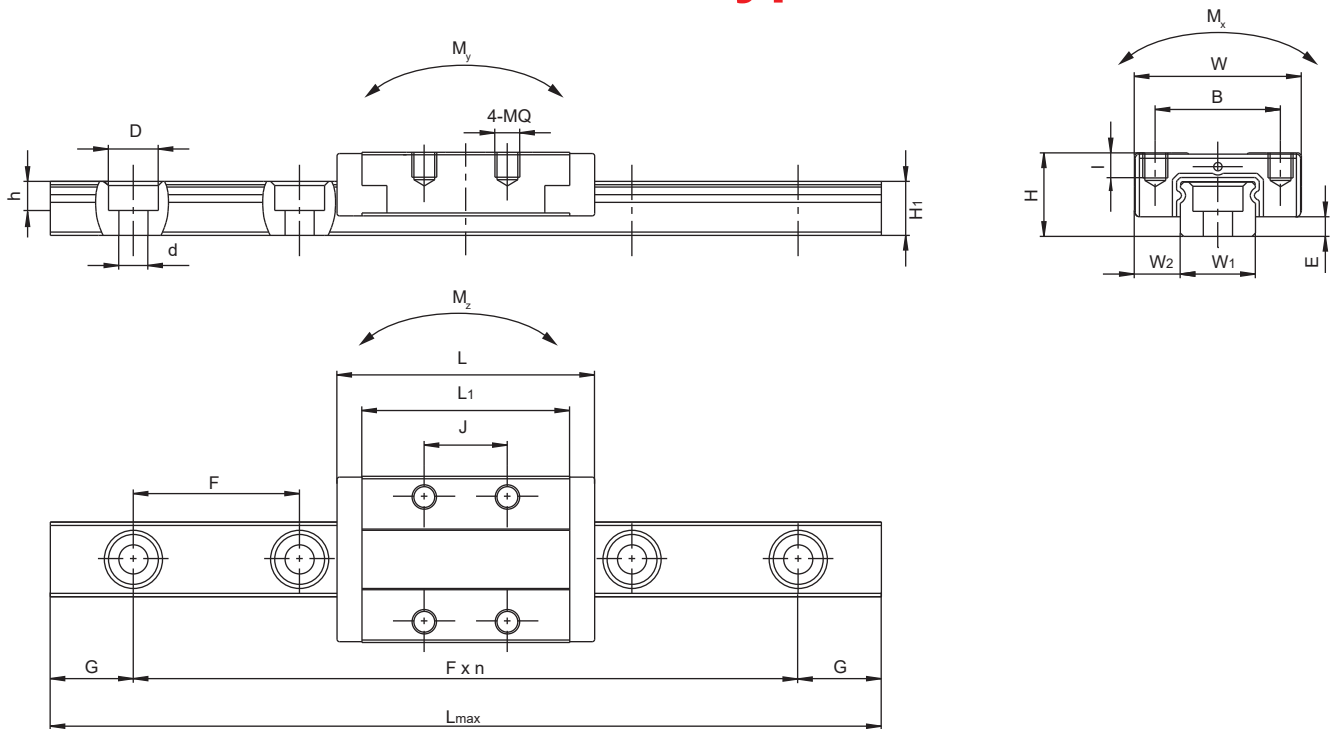
Each dimension is derived from the mean value of two measured points with identical centre distance.

Unit: mm



Item	Grade	
	(Precision) P	(High) H
Tolerance of height (H)*	±0.010	±0.020
Tolerance of width (W)*	±0.015	±0.025
Difference of heights ( $\Delta H$ )**	0.007	0.015
Difference of widths ( $\Delta W$ )*	0.007	0.015
Running parallelism of Block side $\square D$ relative to Rail side $\square A$	$\Delta C$ Refer to Fig.1	
Running parallelism of Block side $\square E$ $\square F$ relative to Rail side $\square B$ $\square C$	$\Delta E$ & $\Delta F$ Refer to Fig.1	

# BMHC-U0/LU Standard type

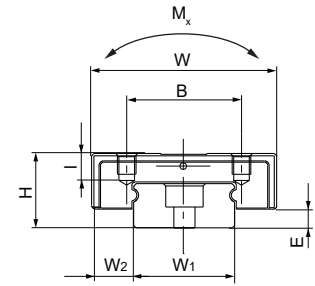
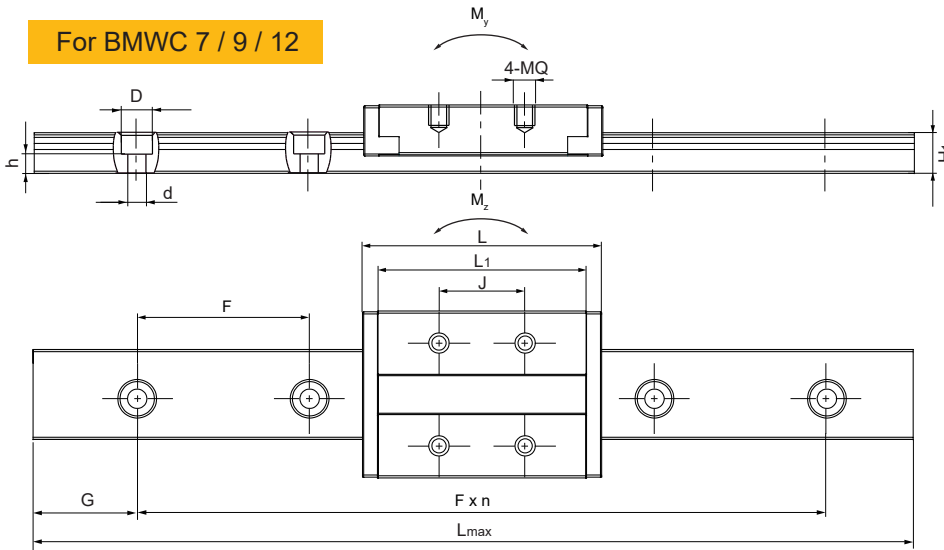


Model No.	Assembly (mm)				Block (mm)				Rail (mm)			
	H	W	W2	E	L	BxJ	MQxI	L1	W1	H1	F	dxDxh
<b>BMHC7U0</b> <b>BMHC7LU</b>	8	17	5	1.5	23.5 31.5	12x8 12x13	M2x2.5	18 26	7	4.8	15	2.5x4.5x2.5
<b>BMHC9U0</b> <b>BMHC9LU</b>	10	20	5.5	2.35	31 40.5	15x10 15x16	M3x3	25 34.4	9	6.5	20	3.5x6x3.5
<b>BMHC12U0</b> <b>BMHC12LU</b>	13	27	7.5	3.35	35 46.5	20x15 20x20	M3x3.5	29 40.5	12	8.8	25	3.5x6x4.5
<b>BMHC15U0</b> <b>BMHC15LU</b>	16	32	8.5	4	44 62	25x20 25x25	M3x4	37 55	15	9.5	40	3.5x6x4.5

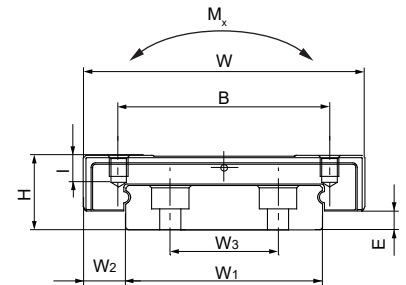
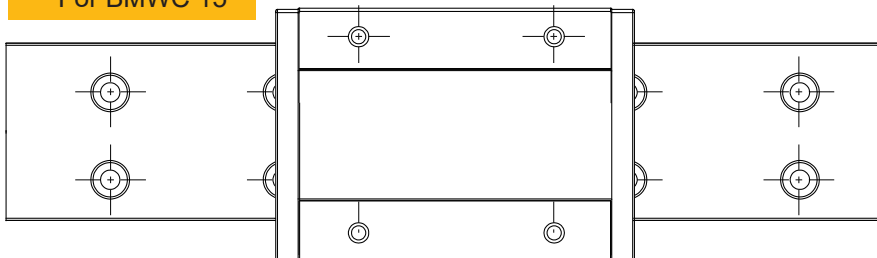
Model No.	Ref.Data (mm)			Basic Load Rating (kgf)		Static Moment (Kgf*m)			Weight	
	Lmax	Gmin	Gmax	( C )	( Co )	Mx	My	Mz	Block (Kg)	Rail (Kg/m)
<b>BMHC7U0</b> <b>BMHC7LU</b>	1000	4.5	11	117 163	149 245	0.47 0.81	0.27 0.88	0.27 0.88	0.01 0.02	0.23
<b>BMHC9U0</b> <b>BMHC9LU</b>	2000	5	15	218 293	285 438	1.17 1.89	0.77 2.03	0.77 2.03	0.02 0.03	0.4
<b>BMHC12U0</b> <b>BMHC12LU</b>	2000	5	20	321 456	397 642	2.19 3.66	1.20 3.41	1.20 3.41	0.04 0.06	0.75
<b>BMHC15U0</b> <b>BMHC15LU</b>	2000	5	35	500 706	596 998	3.96 6.54	2.44 6.45	2.44 6.45	0.09 0.13	1.05

# BMWC-U0/LU Wide type

For BMWC 7 / 9 / 12



For BMWC 15



Model No.	Assembly (mm)					Block (mm)				Rail (mm)			
	H	W	W2	W3	E	L	BxJ	MQxI	L1	W1	H1	F	dxDxh
<b>BMWC7U0</b> <b>BMWC7LU</b>	9	25	5.5	-	2	31 41.5	19x10 19x19	M3x3	25.5 36	14	5.2	30	3.5x6x3.5
<b>BMWC9U0</b> <b>BMWC9LU</b>	12	30	6	-	2.5	39 50.5	21x12 23x24	M3x3	33 44.5	18	7	30	4.5x8x4.5
<b>BMWC12U0</b> <b>BMWC12LU</b>	14	40	8	-	3	43.5 58	28x15 28x28	M3x3.5	37.5 52	24	8.5	40	4.5x8x4.5
<b>BMWC15U0</b> <b>BMWC15LU</b>	16	60	9	23	4	55.5 74.5	45x20 45x35	M4x4.5	48.5 67.5	42	9.5	40	4.5x8x4.5

Model No.	Ref. data (mm)			Basic load rating (Kgf)		Static moment (Kgf*m)			Weight	
	Lmax	Gmin	Gmax	( C )	( C0 )	Mx	My	Mz	Block (Kg)	Rail (Kg/m)
<b>BMWC7U0</b> <b>BMWC7LU</b>	2000	5	25	157 213	224 352	1.50 2.34	0.65 1.61	0.65 1.61	0.02 0.03	0.54
<b>BMWC9U0</b> <b>BMWC9LU</b>	2000	5	25	277 366	413 596	3.69 5.27	1.76 3.68	1.76 3.68	0.05 0.07	0.94
<b>BMWC12U0</b> <b>BMWC12LU</b>	2000	6	34	398 546	540 846	7.04 9.87	2.91 5.90	2.91 5.90	0.09 0.12	1.53
<b>BMWC15U0</b> <b>BMWC15LU</b>	2000	6	34	642 841	866 1274	18.23 24.65	5.54 10.76	5.54 10.76	0.19 0.26	2.97

**BM H S 7 -U0 2 Z1 -0100 H D0 -S W2**

**Rail type**

H Standard rail  
W Wide rail

**Type code**

S System ( Block mounted on rail )  
C Block ( Block only )  
R Rail ( Rail only )

**Size**

7, 9, 12, 15

**Block, Type**

U0 Slim-line block, standard length, standard height  
LU Slim-line block, extended length, standard height

**Number of blocks per rail**

1~9 1-9 blocks per rail  
A~W > 9 blocks per rail ( 10=A, 11=B, 12=C... )

**Preload Class**

Z0 No preload  
Z1 Light preload

**Rail Length**

xxxx Size 7 : Up to 1,000 mm length ( 1 mm steps )  
Size 9, 12, 15 : Up to 2,000 mm length ( 1 mm steps )

**Accuracy Class**

H High  
P Precision 1)

**Rail Hole**

D0 Standard hole ( Standard hole distance. Distance of the first and last attachment holes are produced equidistantly )  
F0 Standard hole ( Standard hole distance. Distance of the first and last attachment holes are not produced equidistantly )

**Sealing**

S Front seal  
0 Low friction shield

**No. of Parallel Rails**

00 Single Rail  
W2~W9 Parallel Rails ( W2: 2 rails, W3: 3 rails... )<sup>1)</sup>

<sup>1)</sup>Available as system



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