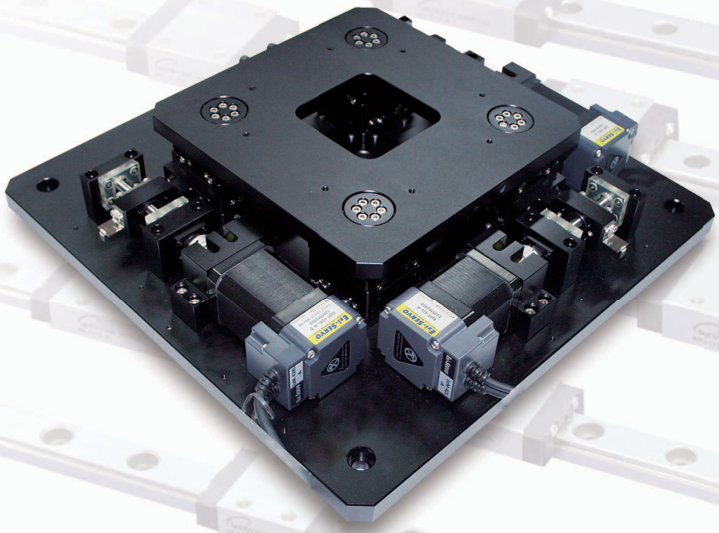
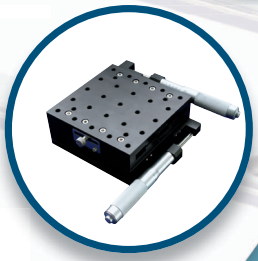
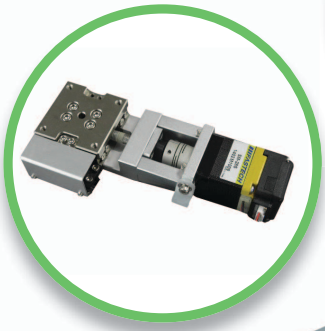
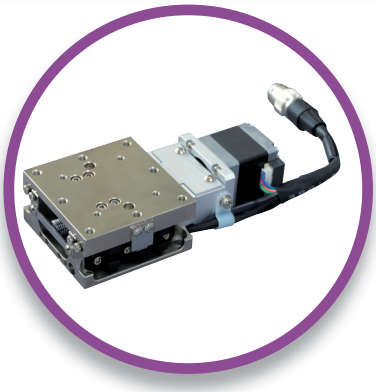


Product Line-Up

Miniature Guide / Cross Roller Slide Guide /
Cross Roller Slide Table / Goniometer Crossed Roller Guide/
Cross Roller Rotary Guide/ Actuator / Motorized Stage /
Manual Stage / Dovetail Stage / Micrometer Head / Support Unit

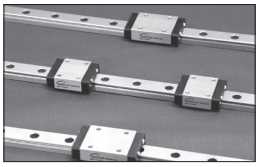
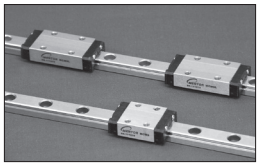
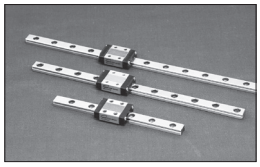






MENTOR

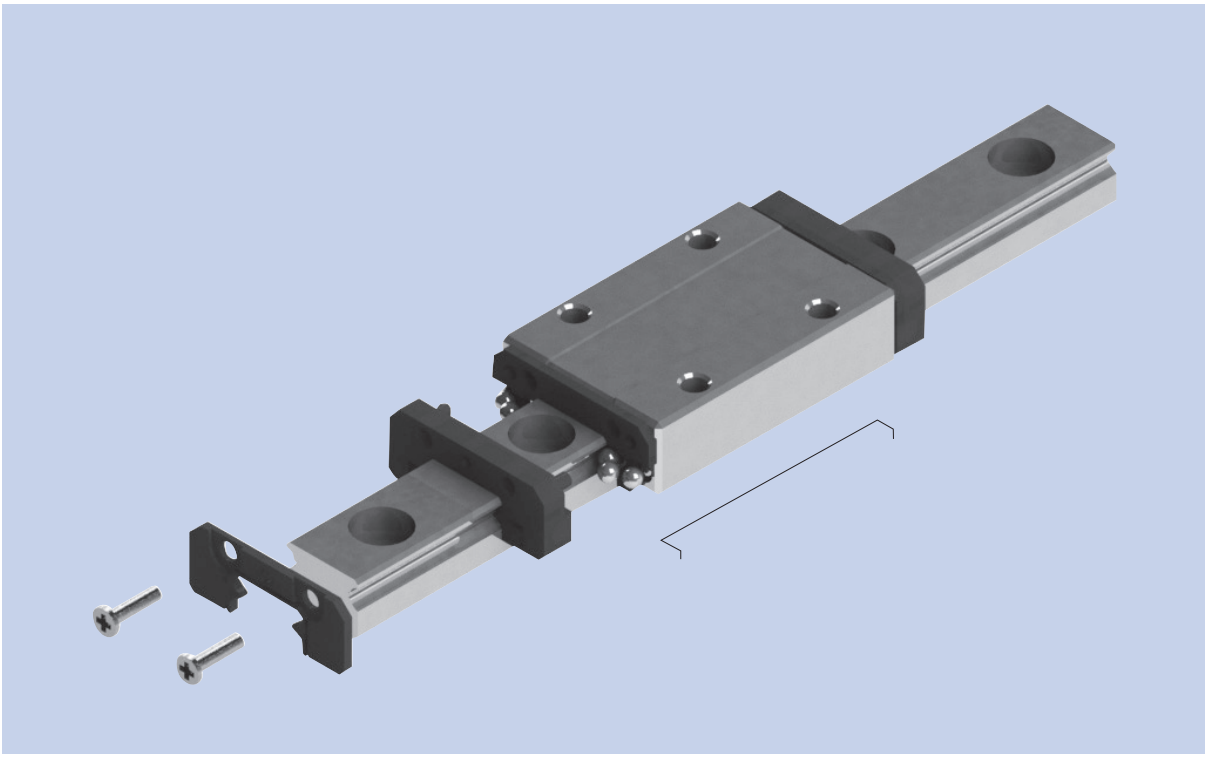
Miniature Guide

MCM 3
MCM 5
MCM 7
MCM 9
MCM 12
MCM 15
MCMW 5
MCMW 7
MCMW 9
MCMW 12
MCMW 15

Miniature Linear Guide

〈Fig.1〉 Structure of miniature linear guide model AM



Structure

MENTOR miniature linear guide MCM has a structure in which the balls contacting rails al 4 points are arranged with 2 set, thus, despite of its small size, provides a stabilized accuracy and rigidity even for use under load and combined loads where a direction and size can be twisted. There is a wide selection of forms and sizes for you to choose a suitable one according to use.

Features

■ Ball retianer

Linear ball support block attached to the ball retainer and captive rail and block the smooth replacement.

■ Perfect design ensures low noise and lubrication

See complete design cycle of integrated blocks to guide the engineering of plastic materials used in the linear block noise traveling and lubricant supply.

■ Development of new technologies and smooth motion

Piece returned the ball to infinite loop and block guide design consisting of integrated linear blocks are horizontal and vertical movement is possible under certain conditions to is smooth.

■ Excellent corrosion resistance

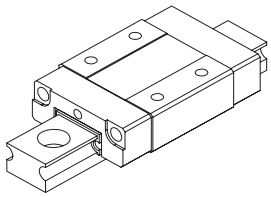
Linear rail and block are corrosion-resistant and acid-resistant stainless steel is used in the semiconductor equipment, medical equipment, measuring, printing, embroidery and other precision devices that are widely used in industry.

■ Safety Design

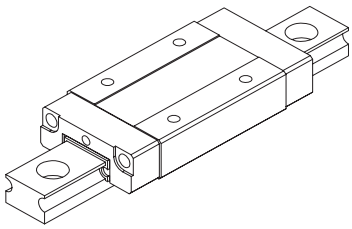
Miniature linear rail and block, using the high corrosion resistance of stainless steel and has a lot of moisture and chemical composition of the environment, it may cause corrosion, high quality black coating and a special coating to increase to the maintenance effect.

Types

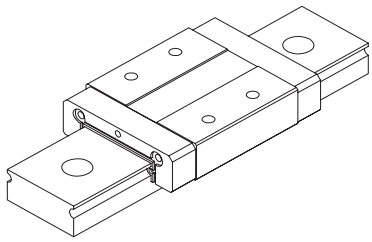
〈Fig.2〉 Types of miniature Linear guide



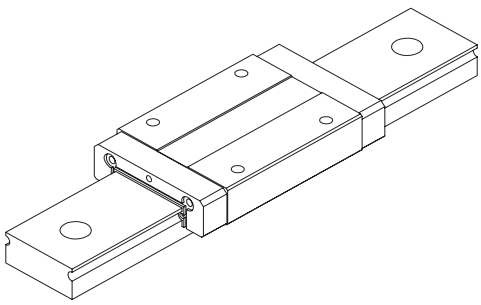
Standard type MCM



Standard long type MCML



Wide type MCMW



Wide long type MCMWL

Radial clearance

radial clearance for the blocks onto the rails in the assembled state of the rail fixed to the base block in the vertical direction to exert a light load at a center portion of the movement amount. Miniature linear guides include.a K1, K2 be two radial clearance.

〈Table.1〉 Radial clearance (K_1, K_2) (Unit:㎛)

Preload conditions	Normal	Light preload
Part no.	K_1	K_2
5	−2 ~ +2	−4 ~ 0
7	−2 ~ +2	−4 ~ 0
9	−2 ~ +2	−4 ~ 0
12	−2 ~ +2	−6 ~ 0
15	−2 ~ +2	−10 ~ 0

Seal resistance

One block is assembled with seals, and seal resistance figures is one miniture block as shown in the table below.

〈Table.2〉 Seal resistance figures

Part no.	AM	AML	AMW	AMWL
5	0.1	–	–	–
7	0.2	0.2	0.6	06
9	0.2	0.2	0.8	0.8
12	0.59	0.59	1.1	1.1
15	1.18	1.18	1.3	1.3

Design of the mounting surface

Linear block and table and bed rail installed on the mounting surface at the time of the first part of the required heighten.

Linear block and the edges of the mounting surface of the rail mounting surface to prevernt interference with chamfered portion of the radius R of dimensions must be carefuly processed.

〈Table.3〉 Seal resistance figures (Unit:㎛)

Part no.	Radius R	Linear block height H_1	Linear rail height H_2	E
MCM 5	0.2	3	1.2	1.5
MCM(L) 7	0.2	3	1.2	1.5
MCM(L) 9	0.3	3	1.9	2.2
MCM(L) 12	0.3	4	2.0	3.0
MCM(L) 15	0.3	5	2.5	4.0
MCMW 5	0.2	3	1.7	3.5
MCMW(L) 7	0.1	3	3.4	3.7
MCMW(L) 12	0.3	4	3.7	4.0
MCMW(L) 15	0.3	5	3.4	3.7

Accuracy

As shown in the table.4 race degree parallelism, permissible deviation in dimensions of height, width is one of several blocks to the rails on the same plane, or if the number of tails needed by the mounting height, width, and also of rule.

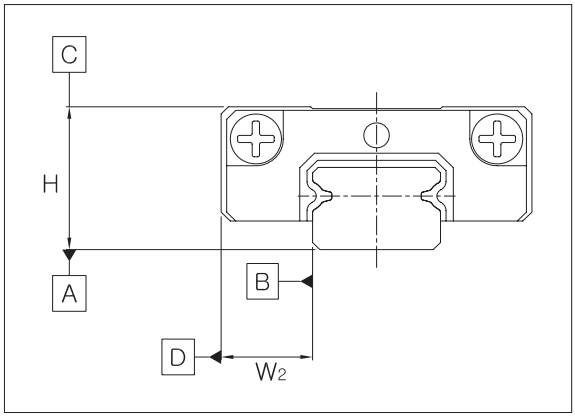
Accuracy grade

Normal grade, high, separated by precision step 3. Combination of block size and the corresponding grade of the rail with a maximum error.

〈Table.4〉 Seal resistance figures (Unit:㎛)

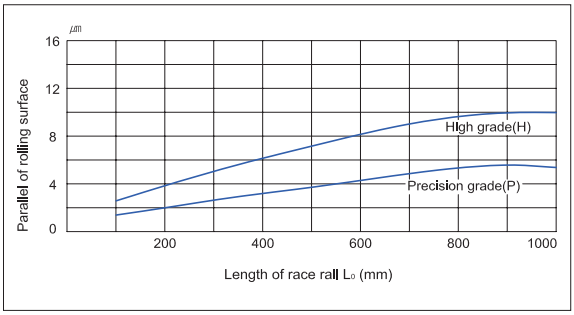
Accuracy grade	Normal graed	High graed	precision grade
Symbol / Item	N	H	P
Permissible deviation in dimensions of height H	±40	±20	±10
Permissible deviation in dimensions of width W2	±40	±25	±15
Pair deviation of height H	30	15	7
Pair deviation of height W2	30	20	10
Ⓐ side face of the Ⓒ race parallelism	Refer to〈Fig.4〉		
Ⓑ side face of the Ⓓ race parallelism			

〈Fig.4〉



Types

〈Fig.5〉



Use a special environment

High quality black special coating or grease according to the conditions applicable to a variety of disciplines and will help durability.

〈Table.5〉

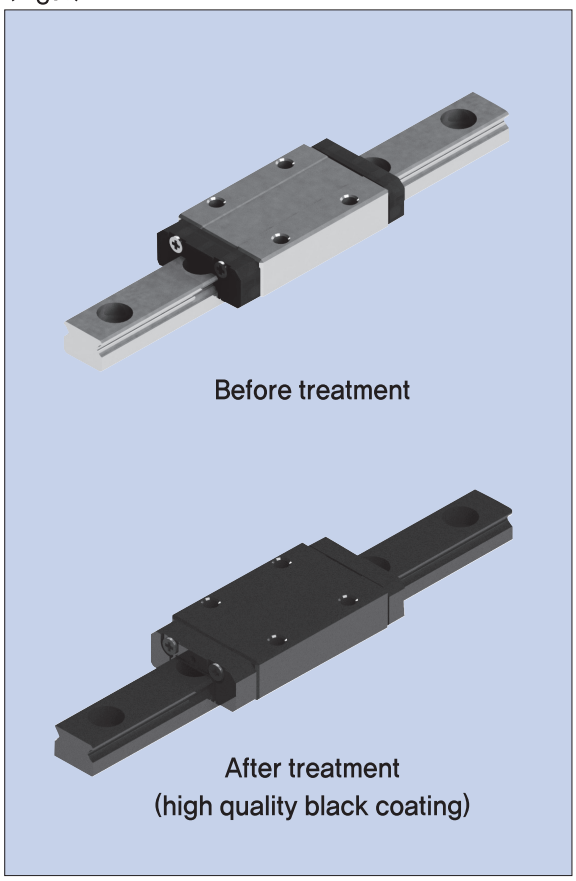
Use environment	Caution when using	Improvement	
(Clean room) Semiconductor, sensor, medical equipment	when used a clean room in a miniature linear guide and the inhibition caused by rash or particles must be	Grease	Use low dust generation grease
(Vacuum) Semiconductor, sensor,medical equipment	Corrosion is not possible using current skills and excellent corrosion environment	Grease	Useing vacuum grease
		Coating	Black special coating

Surface treatment

■ Low tempearture fluorination chrome plating

Black chrome coating on the product and where high corrosion resistance is required, such as low dust and clean rooms and the best surface treatment to improve the appearance quality are used where necessary.

〈Fig.6〉



■ Electrolytic corrosion coating black (black chrome plating)

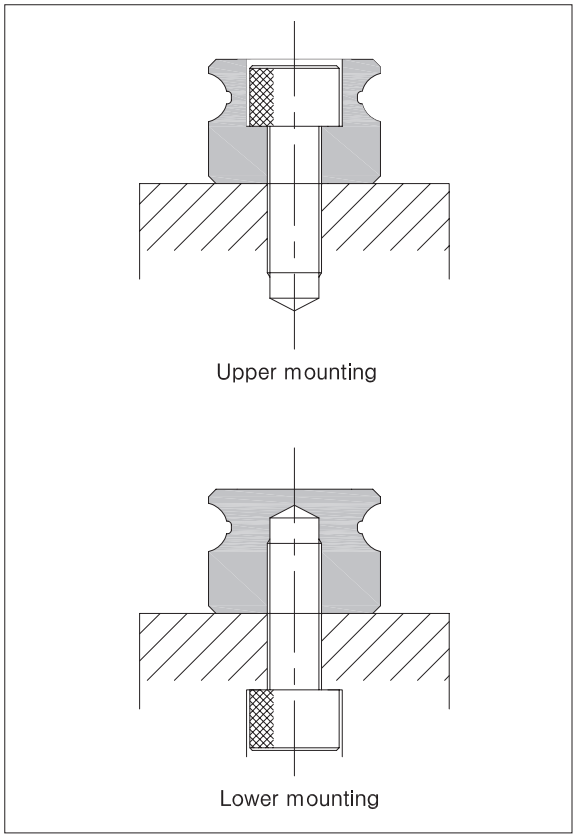
Industrial stainless steel or black chrome corrosion resistance and decorative manner,the light of the purposes of the anti-reflection.

■ Industrial hard chrome plating

Industrial stainless steelor black chrome corrosion resistance and decorative manner, the light of the purposes of the anti-reflection.

Rail mounting method

〈Fig.7〉

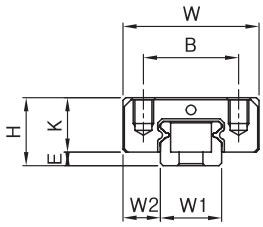


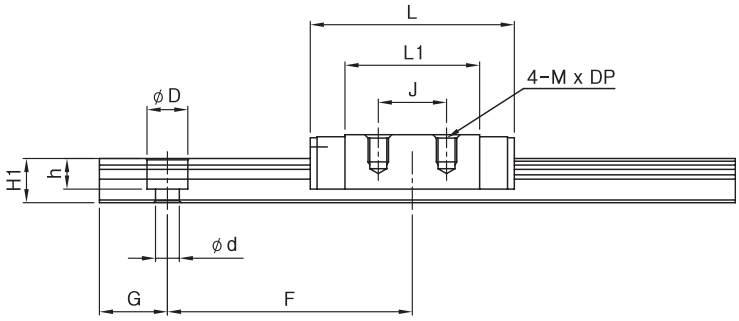
■ Bolt mounting torque

Linear guide installation meets the specifications of the mounting torque of the bolt must be Fastening. Mounting torque listed in the following table is achieved to a great accuracy.

〈Table.5〉

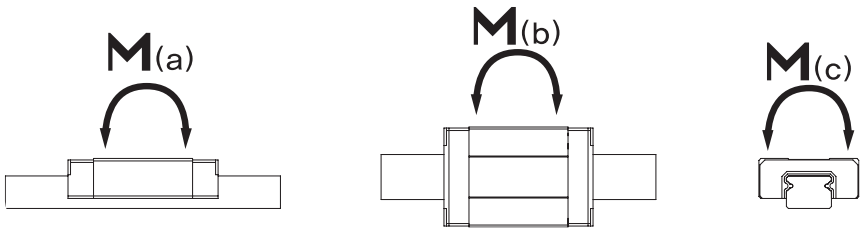
Part no.	Bolt	Mounting torque
MCM 5	M2×0.4×4L	57 / (5.9)
MCM 7	M2×0.4×6L	57 / (5.9)
MCM 9	M3×0.5×8L	186 / (19)
MCM 12	M3×0.5×8L	186 / (19)
MCM 15	M3×0.5×10L	186 / (19)
MCMW 5	M3×0.5×6L	186 / (19)
MCMW 7	M3×0.5×8L	186 / (19)
MCMW 12	M4×0.7×8L	392 / (40)
MCMW 15	M4×0.7×10L	392 / (40)





(Unit : mm)

Model Number	Dimensions of Assembly				Dimensions of Block						Dimensions of Rail								
	H	W	L	E	B	J	M	DP	L1	K	W1	W2	H1	F	d	D	h	G	Max L0
MCM3	4	8	11	1		3.5	M1.6	1.3	7	3	3	2.5	2.6	10	M1.6 TAP THRU			5	100
MCM5	6	12	16.4	1.5	8		M2	1.5	10	4.5	5	3.5	3.7	15	2.4	3.5	0.8	5	200
MCMW5	6.5	17	20.5	1.5	13		M2.5	1.5	14	5	10	3.5	4	20	2.9	4.8	1.6	5	200
MCM7	8	17	24.8	1.5	12	8	M2	3	15	6.5	7	5	4.7	15	2.4	4.2	2.4	5	600
MCM7L	8	17	32.8	1.5	12	13	M2	3	23	6.5	7	5	4.7	15	2.4	4.2	2.4	5	600
MCMW7	9	25	31.2	2	19	10	M3	3	21	7	14	5.5	5.2	30	3.5	6	3.2	10	1000
MCM9	10	20	29.8	2	15	10	M3	4	19.5	8	9	5.5	6.5	20	3.5	6	3.5	7.5	1000
MCM9L	10	20	40.6	2	15	16	M3	4	30	8	9	5.5	6.5	20	3.5	6	3.5	7.5	1000
MCMW9	12	30	40.2	3	21	12	M3	4	27.5	9	18	6	7.5	30	3.5	6	4.5	10	1000
MCMW9L	12	30	51.5	3	23	24	M3	4	38.6	9	18	6	7.5	30	3.5	6	4.5	10	1000
MCM12	13	27	35	3	20	15	M3	4	21.5	10	12	7.5	8	25	3.5	6	4.5	10	1000
MCM12L	13	27	46.9	3	20	20	M3	4	33.2	10	12	7.5	8	25	3.5	6	4.5	10	1000
MCMW12	14	40	47	3.5	28	15	M3	4	31.4	10.5	24	8	8.5	40	4.5	8	4.5	15	1000
MCMW12L	14	40	61.7	3.5	28	28	M3	4	45.8	10.5	24	8	8.5	40	4.5	8	4.5	15	1000
MCM15	16	32	43	4	25	20	M3	5	26.7	12	15	8.5	10	40	3.5	6	4.5	15	1000
MCM15L	16	32	60	4	25	25	M3	5	43.4	12	15	8.5	10	40	3.5	6	4.5	15	1000
MCMW15	16	60	55.8	3.5	45	20	M4	5	38	12.5	42	9	9.5	40	4.5	8	4.5	15	1000
MCMW15L	16	60	74.8	3.5	45	35	M4	5	57	12.5	42	9	9.5	40	4.5	8	4.5	15	1000

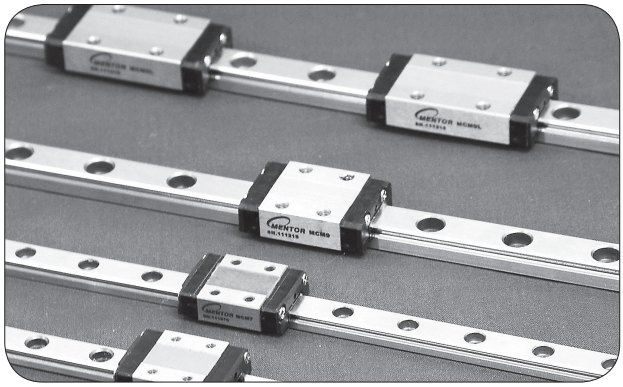


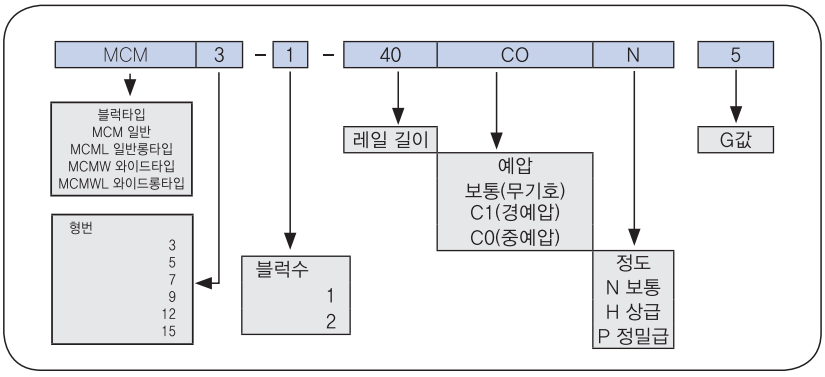
(Unit : mm)

Model Number	Basic Load Rating		Static Rated Moment (N · m)			Weight	
	C kN	C0 kN	M(a)	M(b)	M(c)	Block kg	Rail kg
MCM3	0.18	0.26	0.29	0.29	0.45	0.0011	0.055
MCM5	0.32	0.58	0.88	0.88	1.5	0.003	0.14
MCMW5	0.5	0.95	1.95	1.95	4.9	0.007	0.28
MCM7	0.88	1.37	2.93	2.93	5	0.013	0.23
MCM7L	1.59	2.5	8.68	8.68	9.12	0.018	0.23
MCMW7	1.37	2.16	7.02	7.02	15.4	0.021	0.51
MCM9	1.47	2.25	7.34	7.34	10.4	0.018	0.32
MCM9L	2.6	3.96	18.4	18.4	18.4	0.027	0.32
MCMW9	2.44	3.92	16	16	36	0.035	1.08
MCMW9L	3.52	5.37	31	31	49.4	0.05	1.08
MCM12	2.65	4.02	11.4	10.1	19.2	0.037	0.58
MCM12L	4.3	6.65	28.9	25.5	31.8	0.055	0.58
MCMW12	4.02	6.08	24.5	21.7	59.4	0.074	1.5
MCMW12L	5.96	9.21	53.9	47.3	90.1	0.101	1.5
MCM15	4.41	6.57	23.7	21.1	38.8	0.069	0.93
MCM15L	7.16	10.7	63.1	55.6	63	0.093	0.93
MCMW15	6.65	9.8	50.3	44.4	167	0.17	3
MCMW15L	9.9	14.9	110	97.2	255	0.2	3

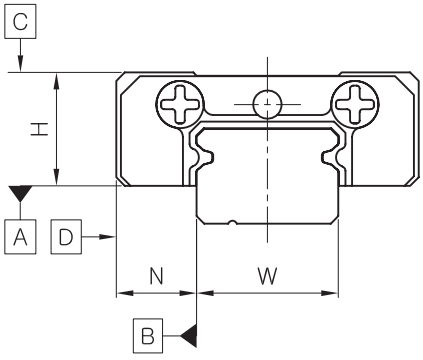
MCM 3

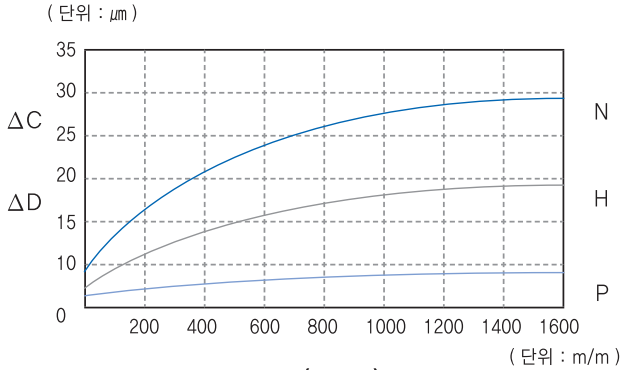
미니츄어 가이드
Miniature Guide





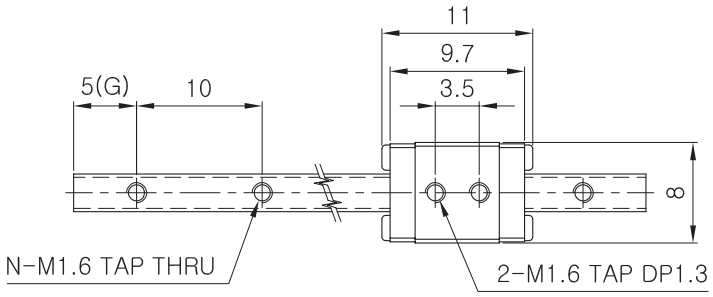
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		

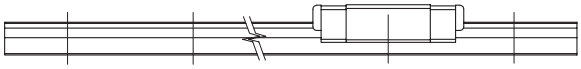


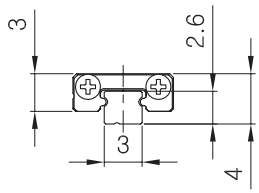


(표 1)

MCM3





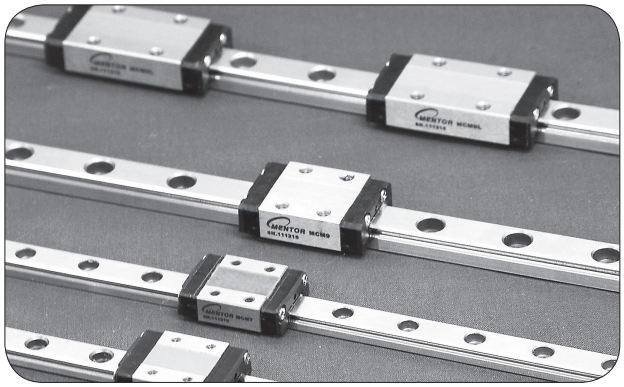


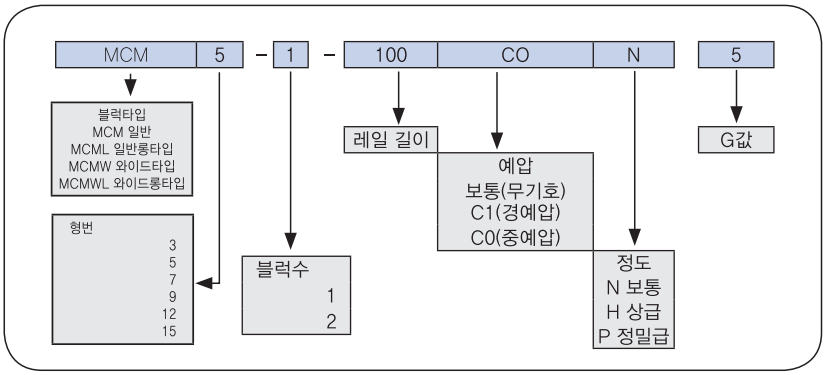
표준길이

40	50	60	70	80	90	100
110	120	130	140	150	160	170
180	190	200	210	220	230	240
250	260	270	280	290	300	

MCM 5

미니츄어 가이드
Miniature Guide





항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
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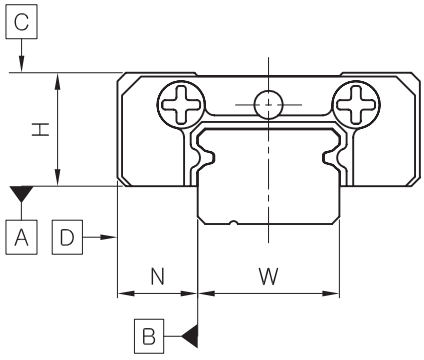
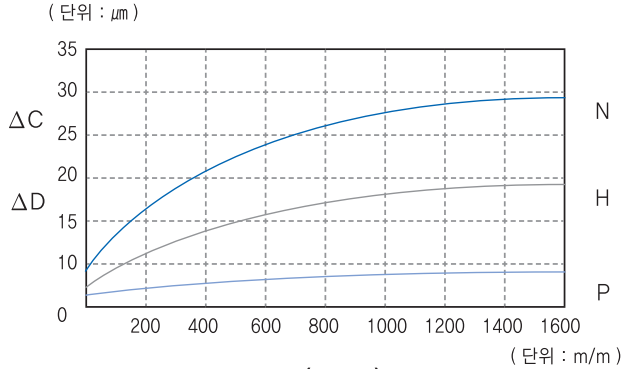
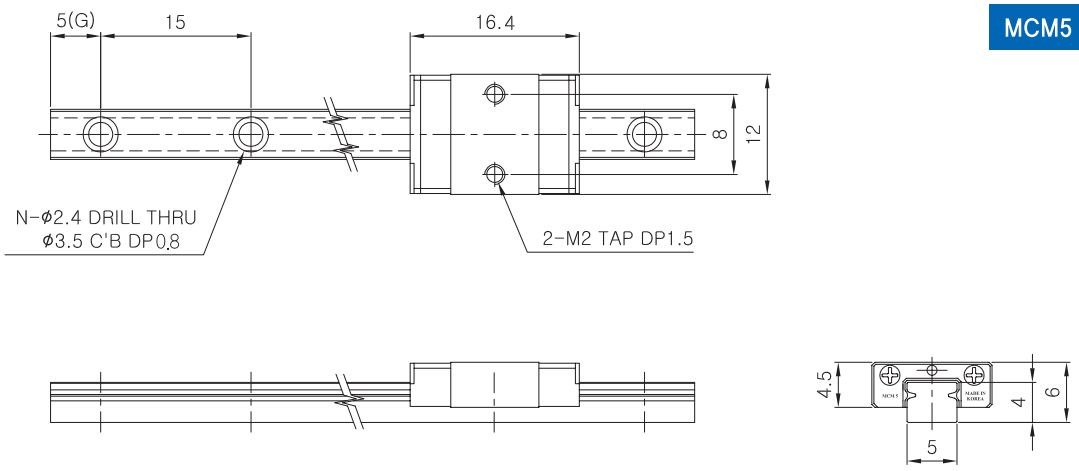
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		





(표 1)

MCM5

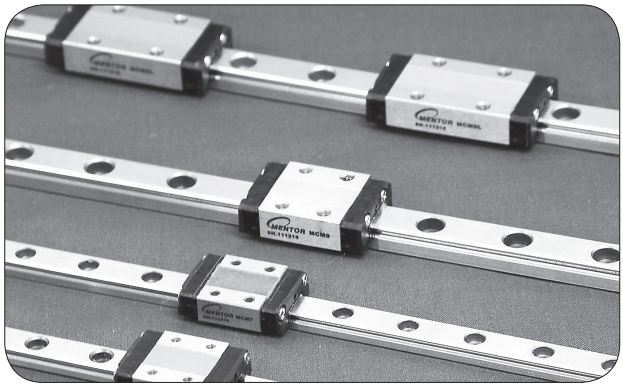


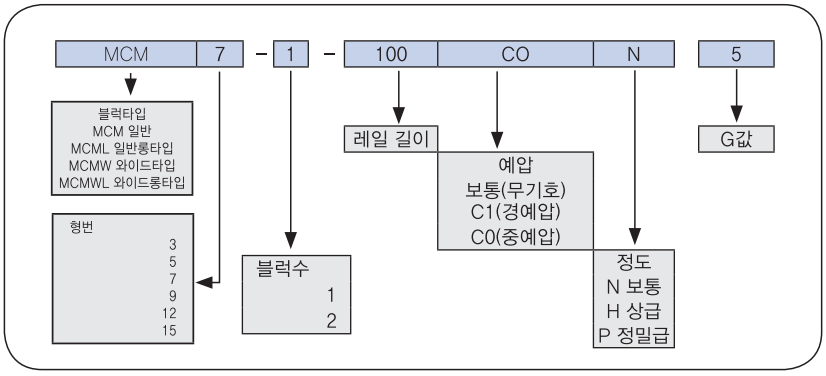
표준길이

40	55	70	85	100	115	130
145	160	175	220	265	310	340
385	400					

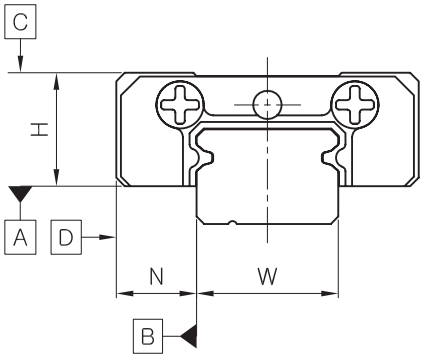
MCM 7

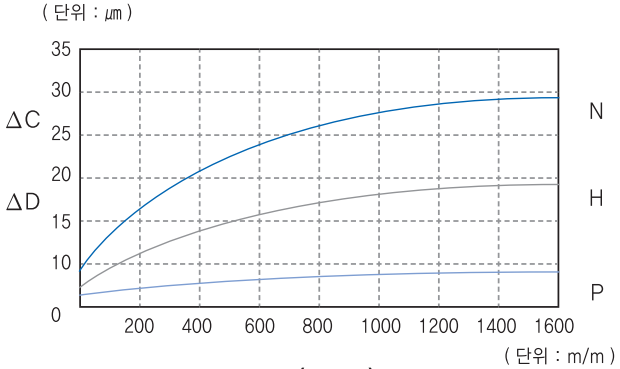
미니츄어 가이드
Miniature Guide





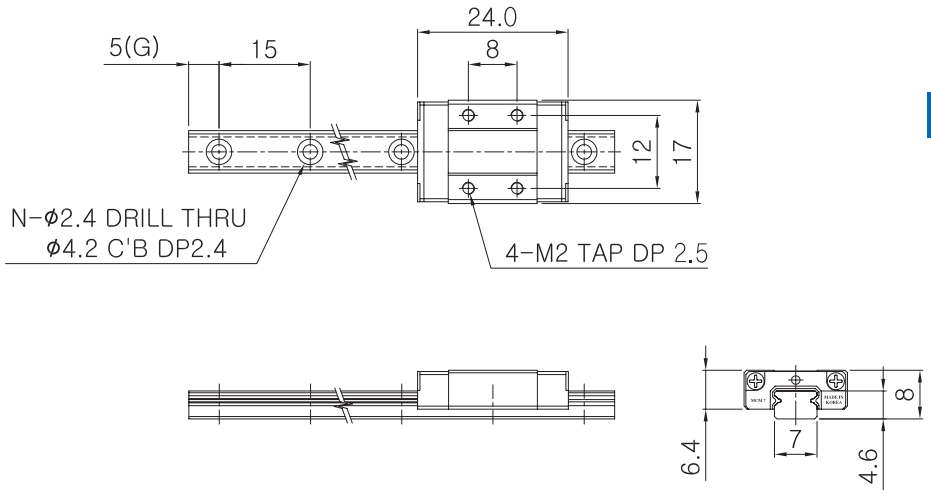
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		



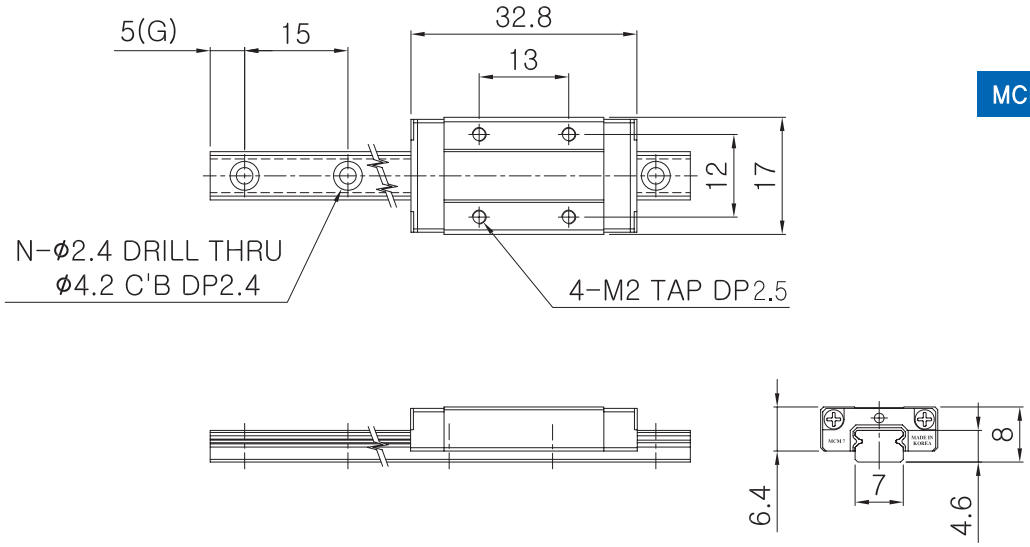


(표 1)

MCM7



MCM7L

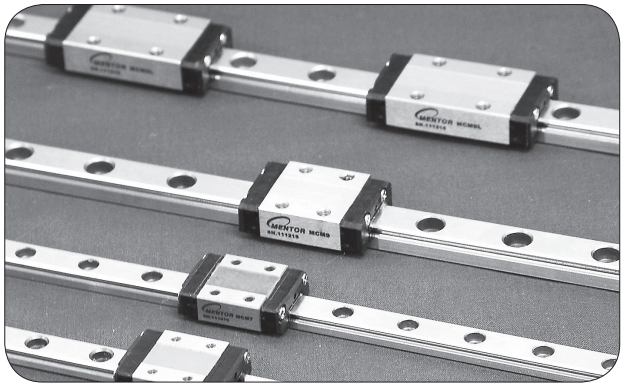


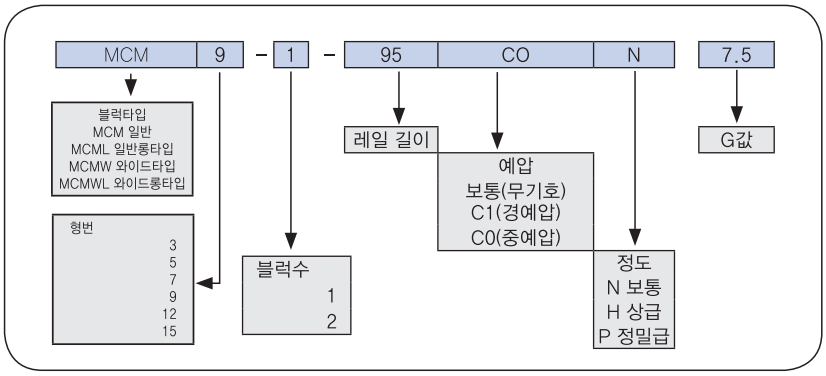
표준길이

40	55	70	85	100	115	130
145	160	175	220	250	280	310
340	370	400	430	460	490	520
550	580	610	640	670	700	

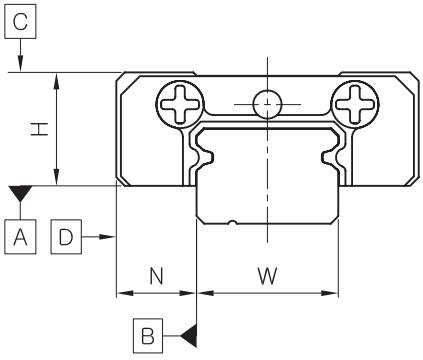
MCM 9

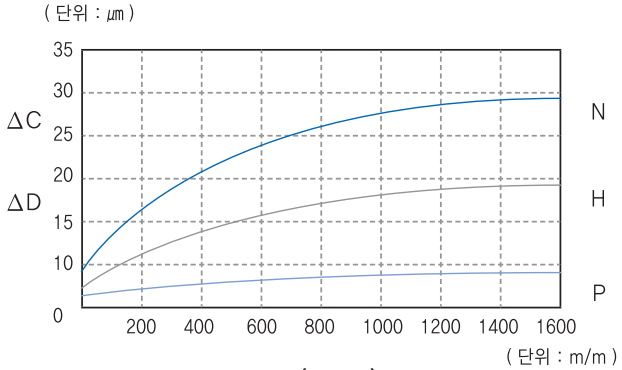
미니츄어 가이드
Miniature Guide





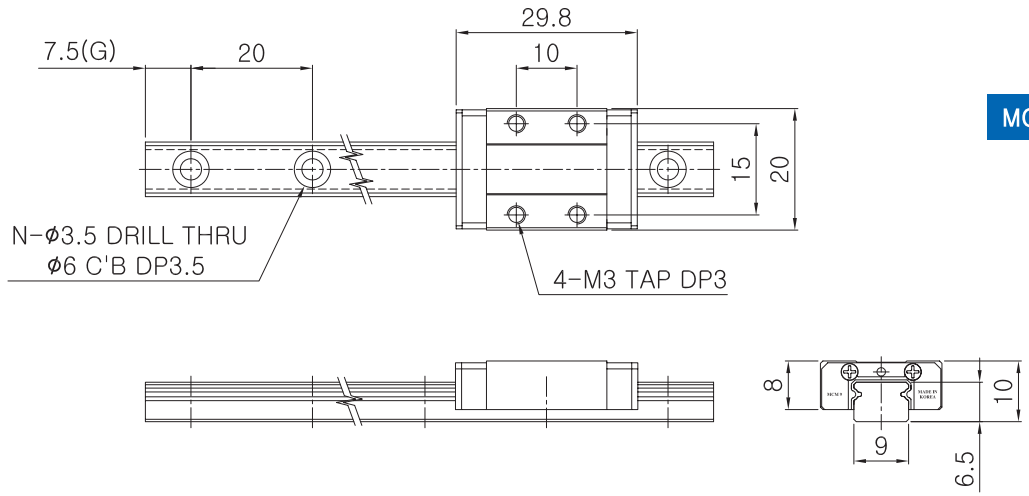
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		



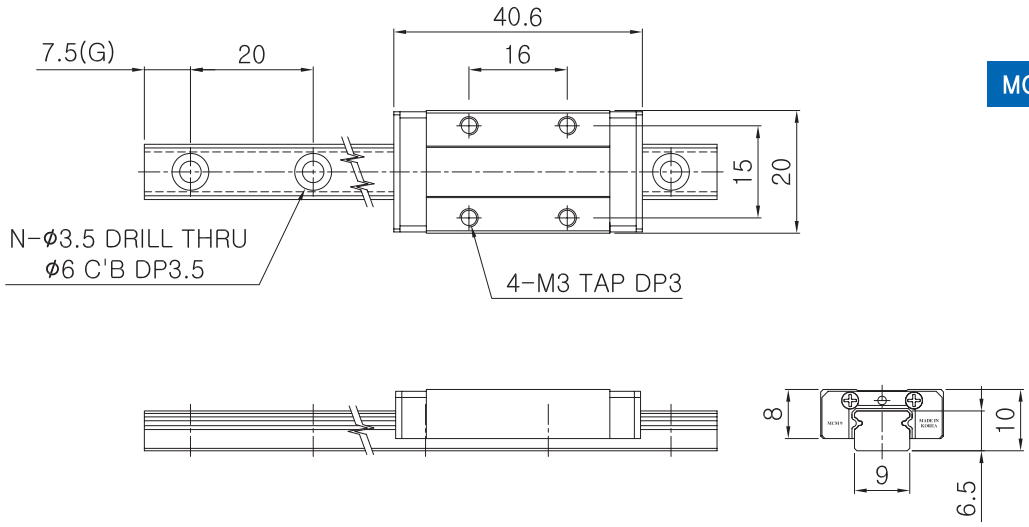


(표 1)

MCM9



MCM9L

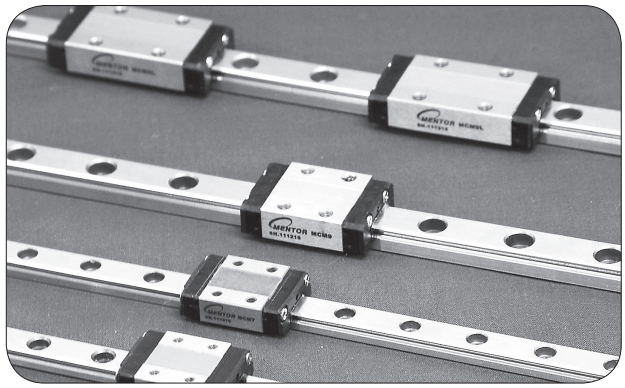


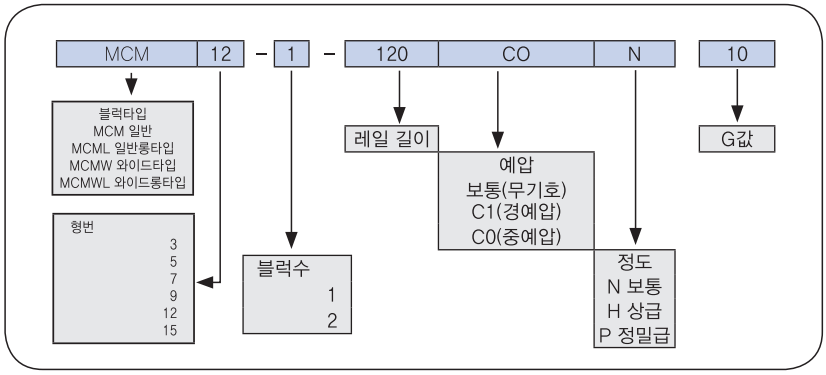
표준길이

55	75	95	115	135	155	175
195	215	235	255	275	295	335
395	415	475	515	575	595	655
695	715	775	815	895	1000	

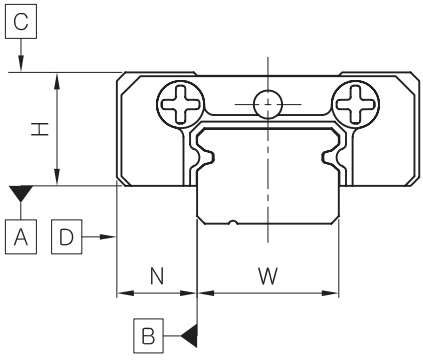
MCM 12

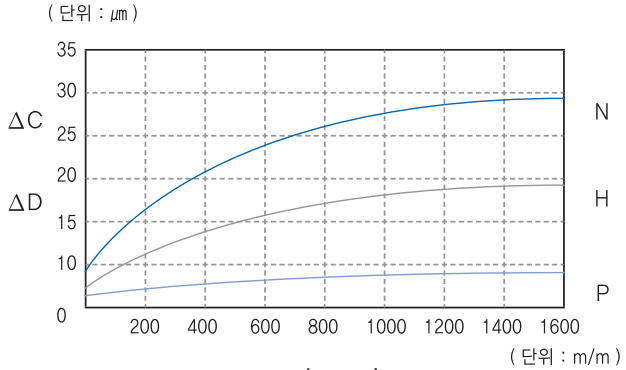
미니츄어 가이드
Miniature Guide





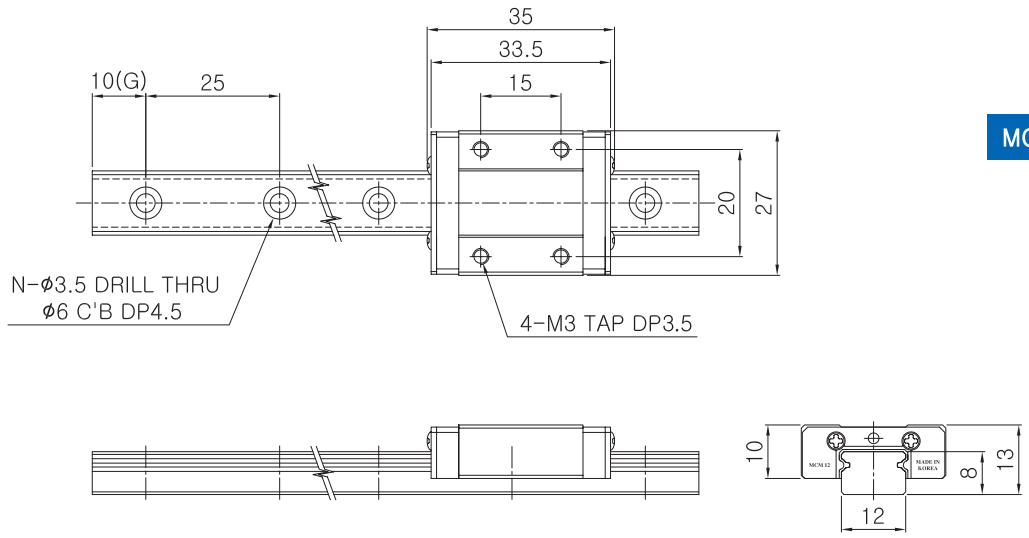
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		



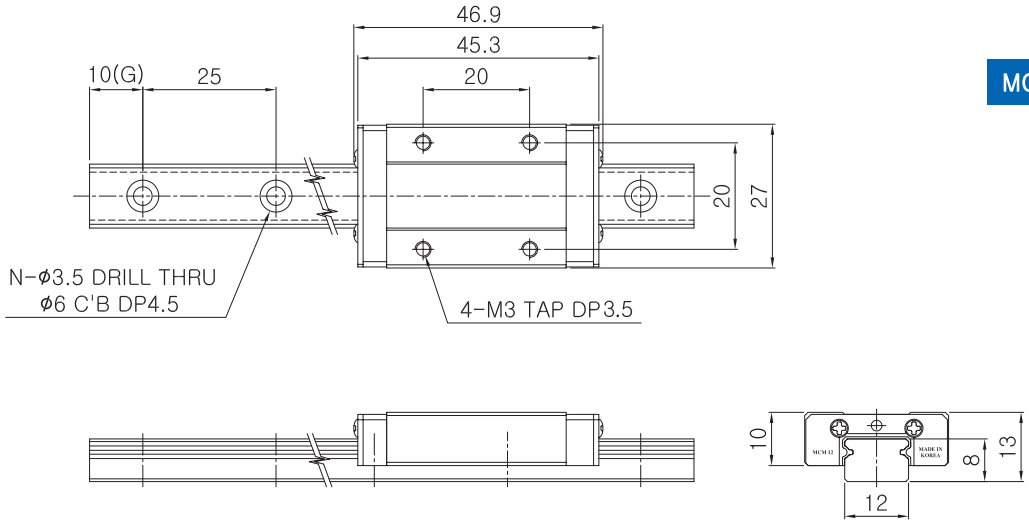


(표 1)

MCM12



MCM12L

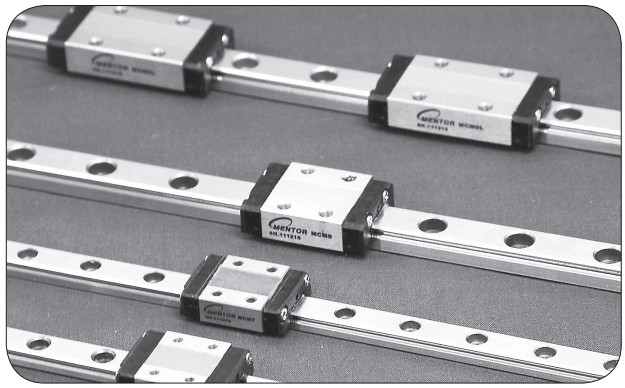


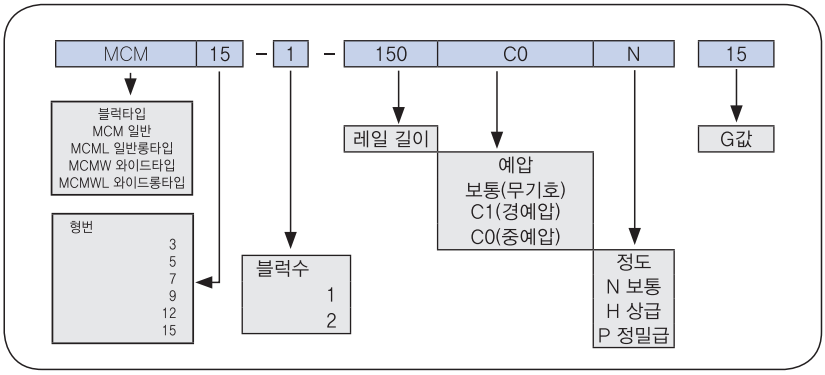
표준길이

70	95	120	145	170	195	220
245	270	295	345	370	420	445
495	520	570	595	645	670	720
745	795	845	895	920	1000	

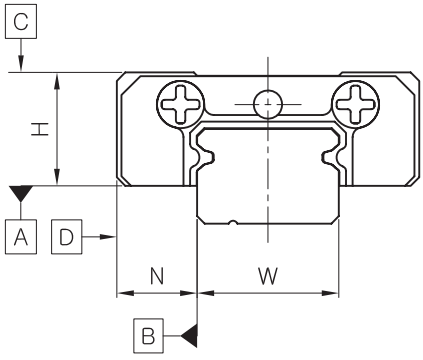
MCM 15

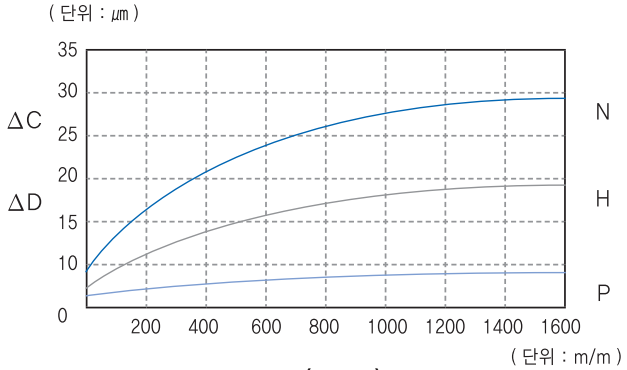
미니츄어 가이드
Miniature Guide





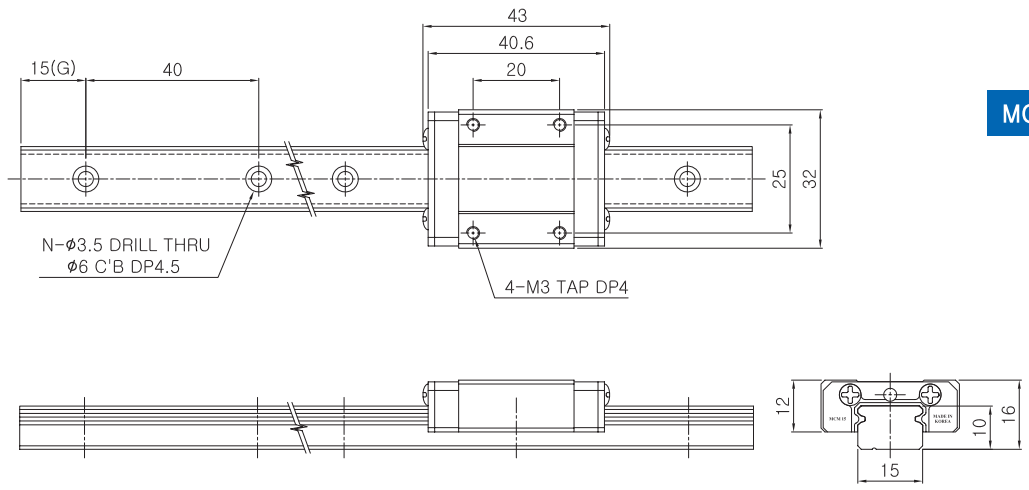
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		



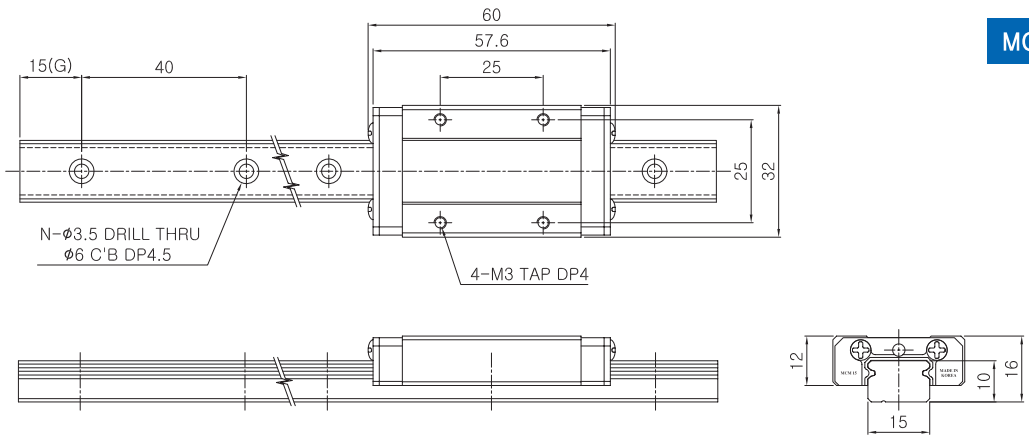


(표 1)

MCM15



MCM15L

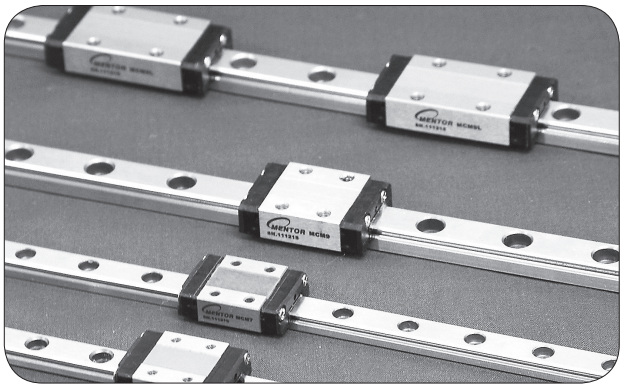


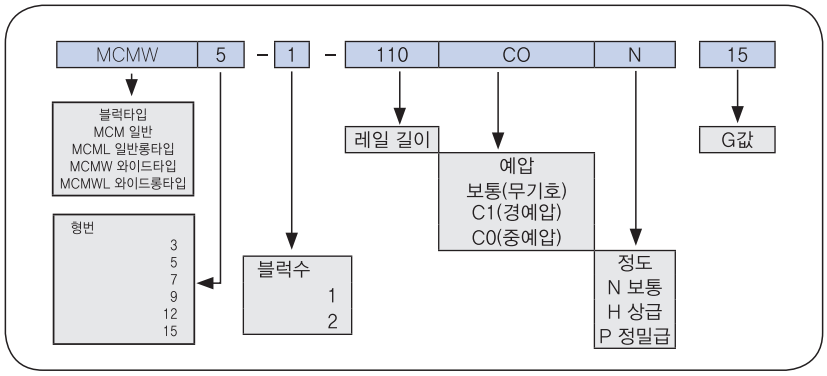
표준길이

70	110	150	190	230	270	310
350	390	430	470	510	550	590
630	670	710	750	790	830	870
1000						

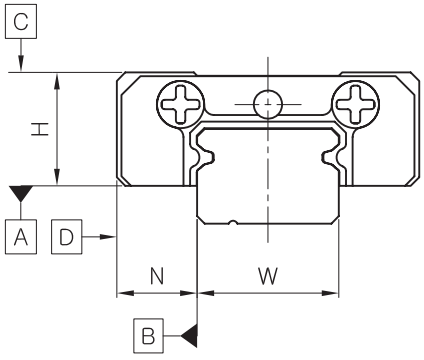
MCMW 5

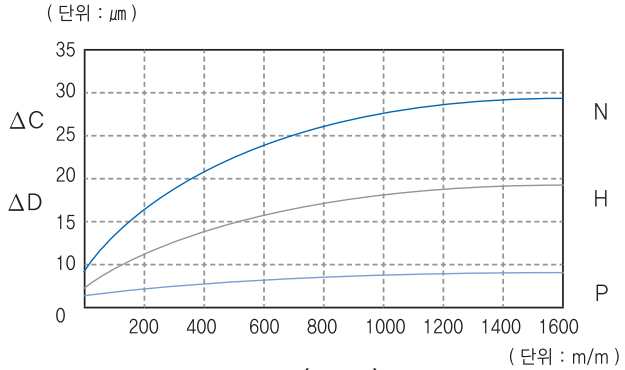
미니츄어 가이드
Miniature Guide





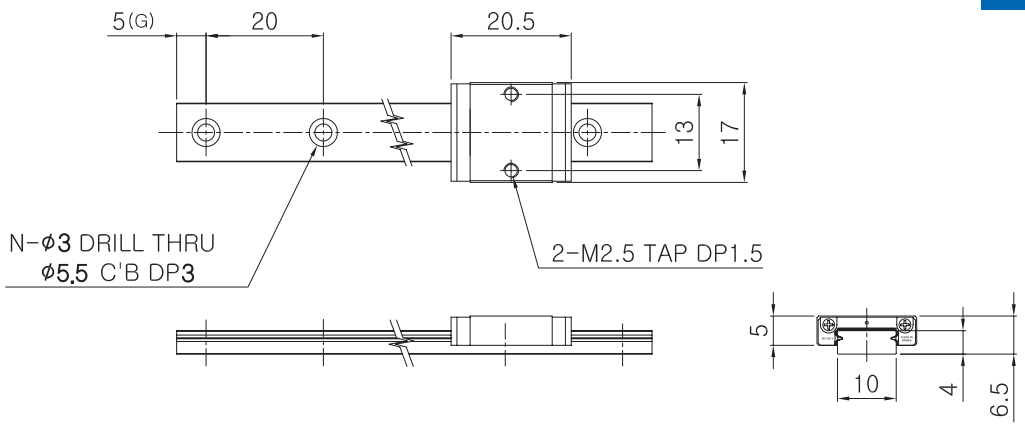
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		





(표 1)

MCMW5

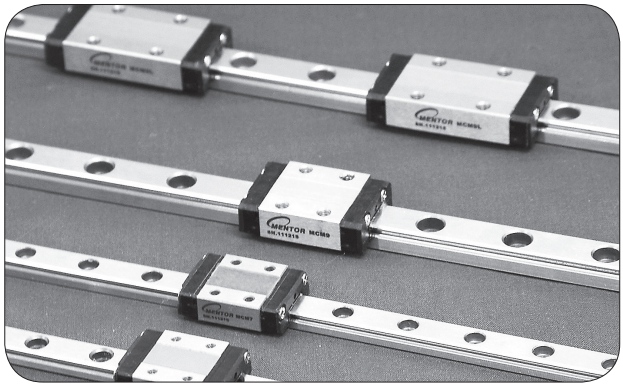


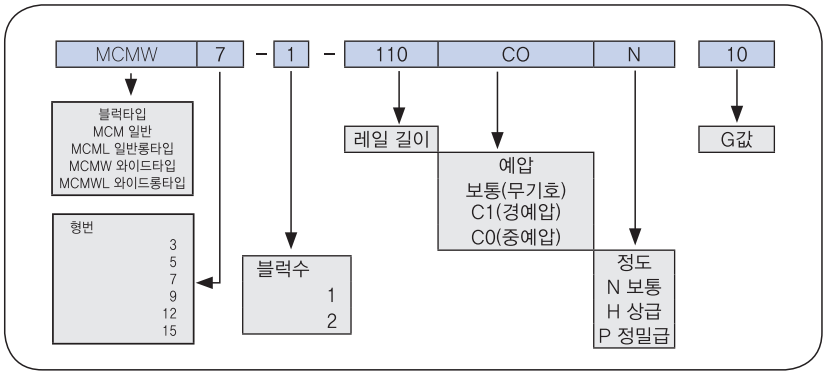
표준길이

50	70	90	110	130	150	170
190	210	230	250	270	290	310
330	350	370	390	410		

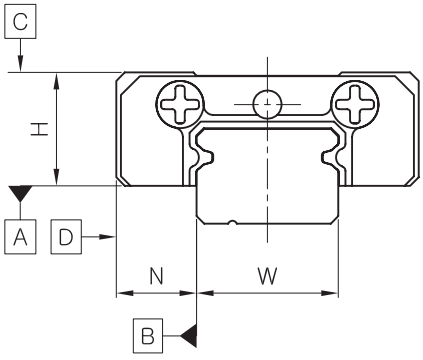
MCMW 7

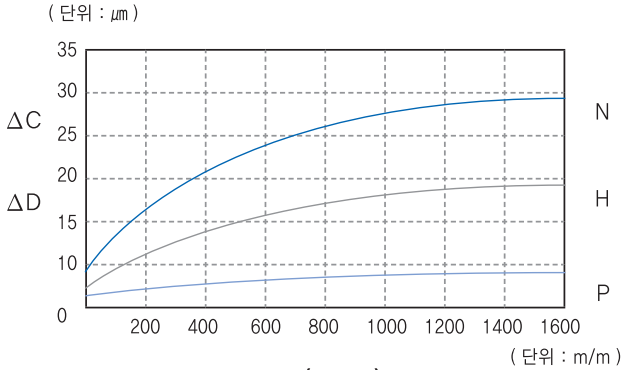
미니츄어 가이드
Miniature Guide





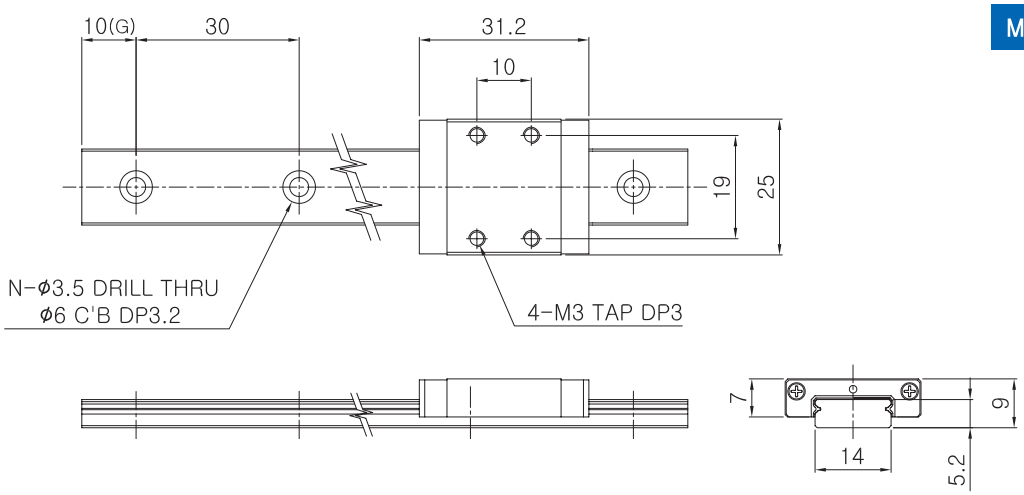
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		





(표 1)

MCMW7

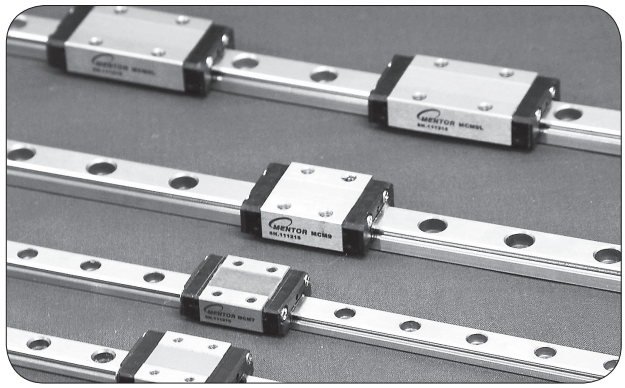


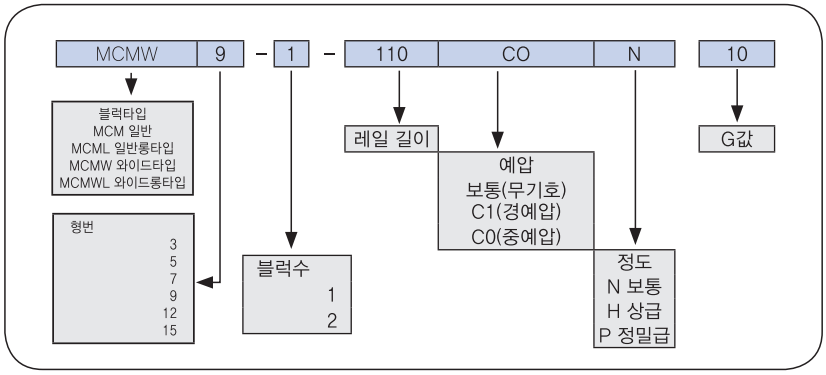
표준길이

50	80	110	140	170	200	230
260	290	320	350	380	410	440
470	500	530	560	590	620	650
680	710	740	770	800	830	860
890	1000					

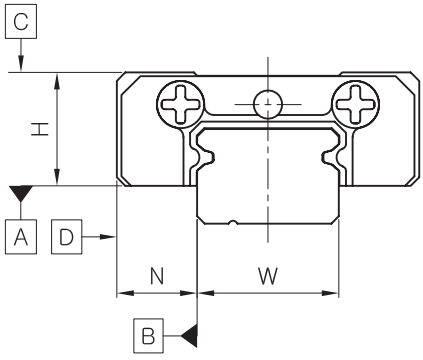
MCMW 9

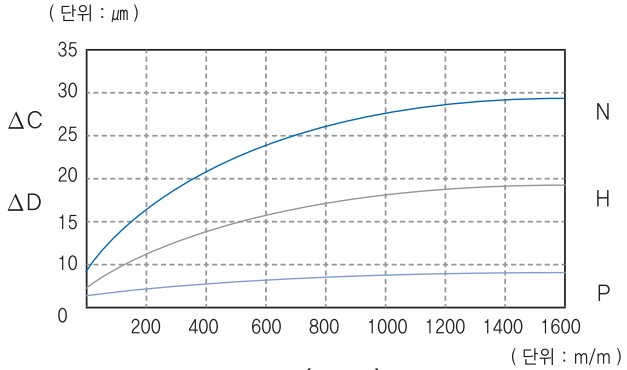
미니츄어 가이드
Miniature Guide





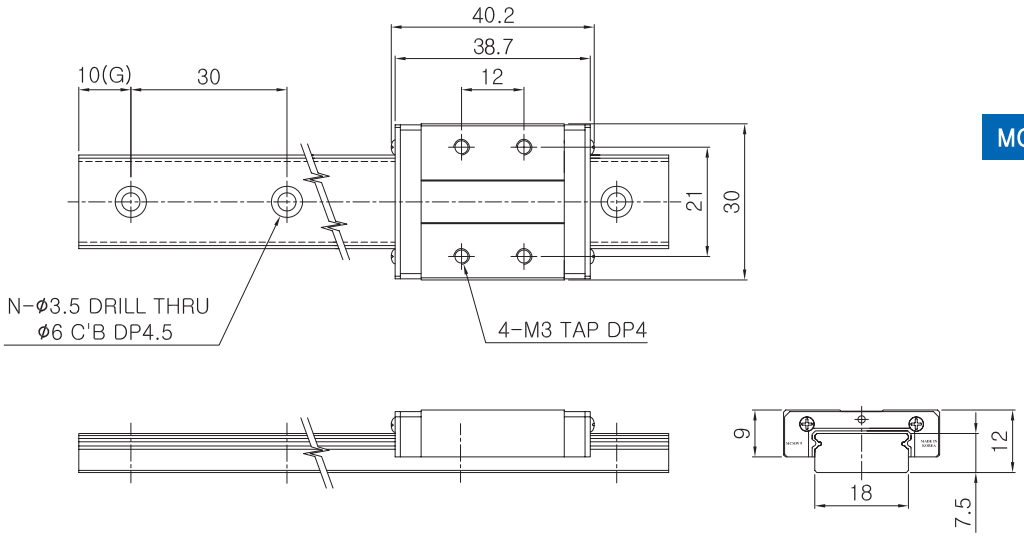
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		



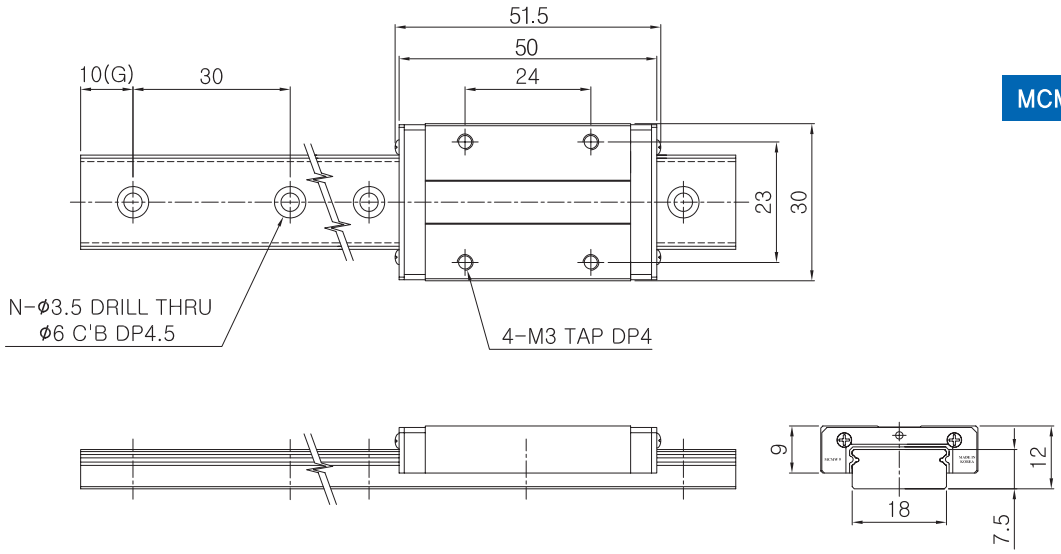


(표 1)

MCMW9



MCMW9L

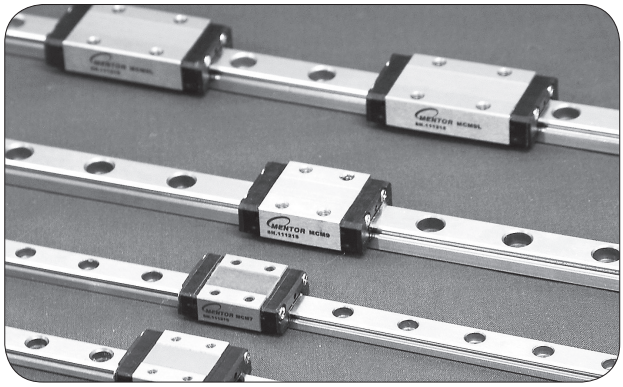


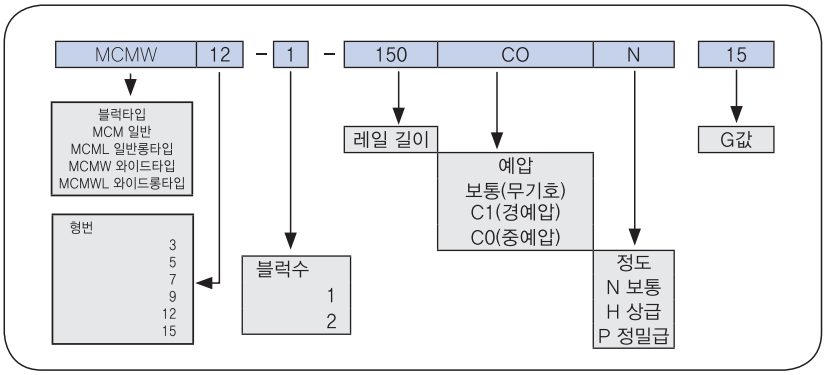
표준길이

50	80	110	140	170	200	230
260	290	320	350	380	410	440
470	500	530	560	590	620	650
680	710	740	770	800	830	860
890	1000					

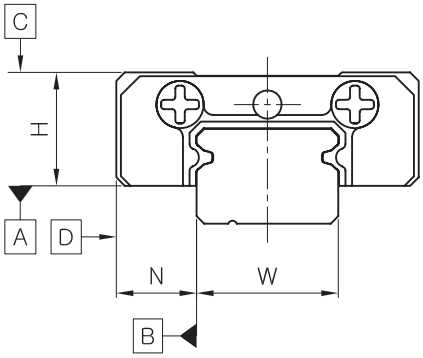
MCMW 12

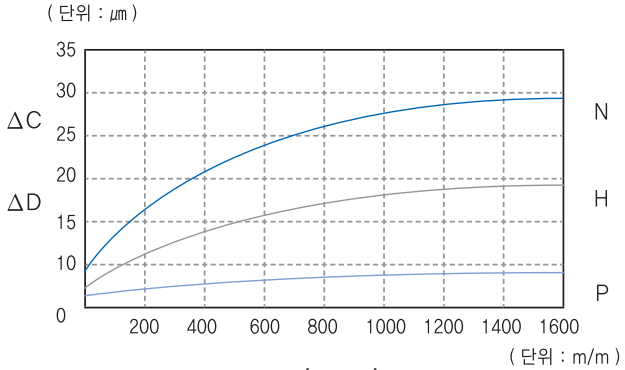
미니츄어 가이드
Miniature Guide





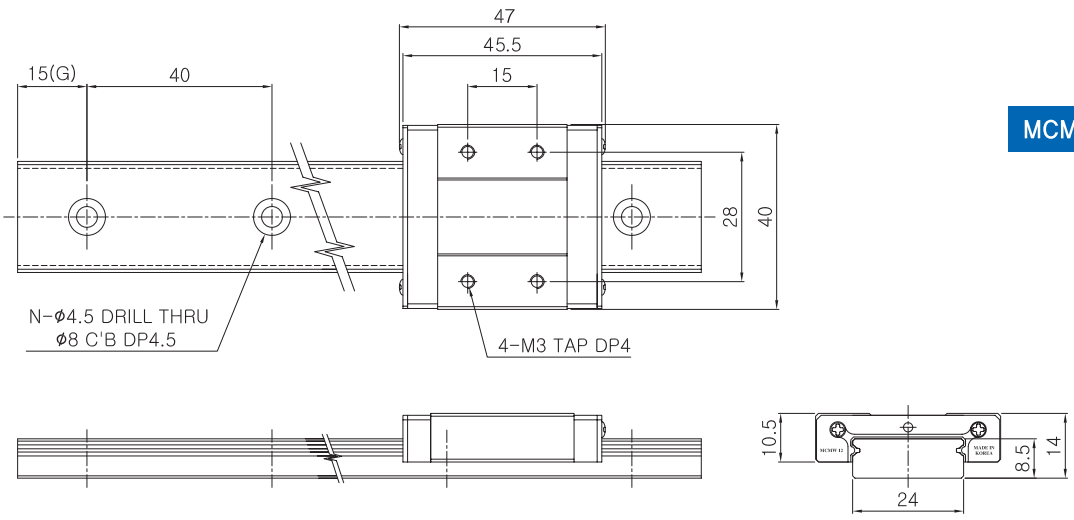
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		



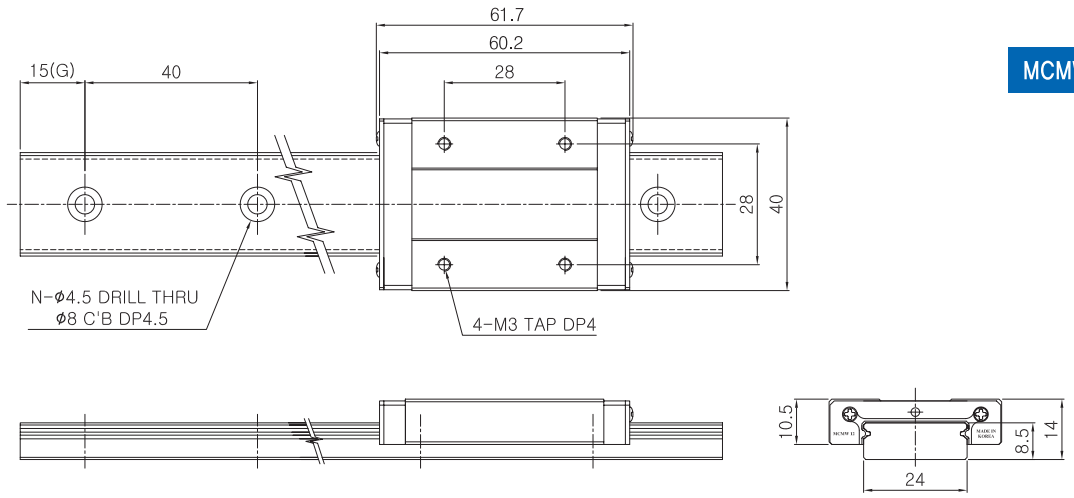


(표 1)

MCMW12



MCMW12L

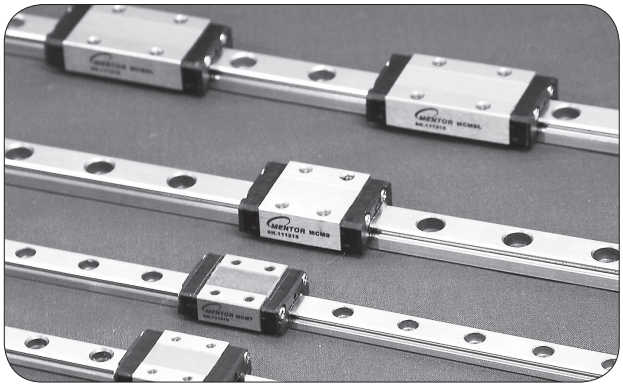


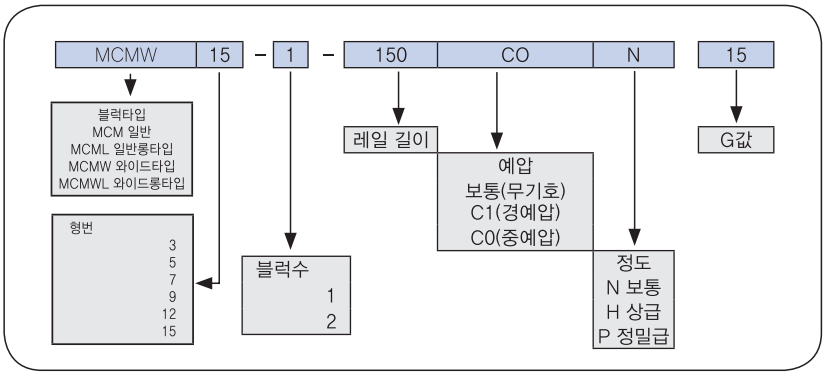
표준길이

70	110	150	190	230	270	310
350	390	430	470	510	550	590
630	670	710	750	790	830	870
1000						

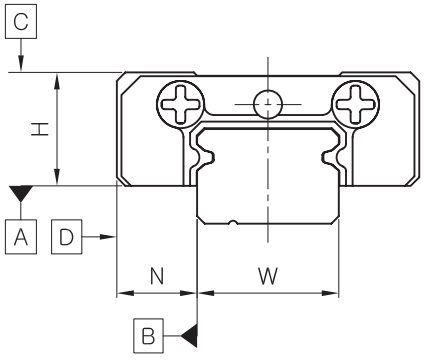
MCMW 15

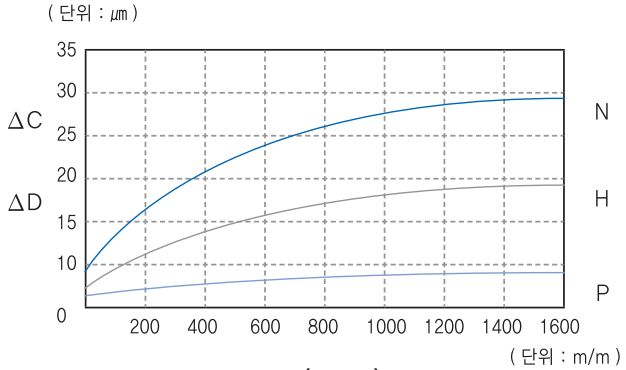
미니츄어 가이드
Miniature Guide





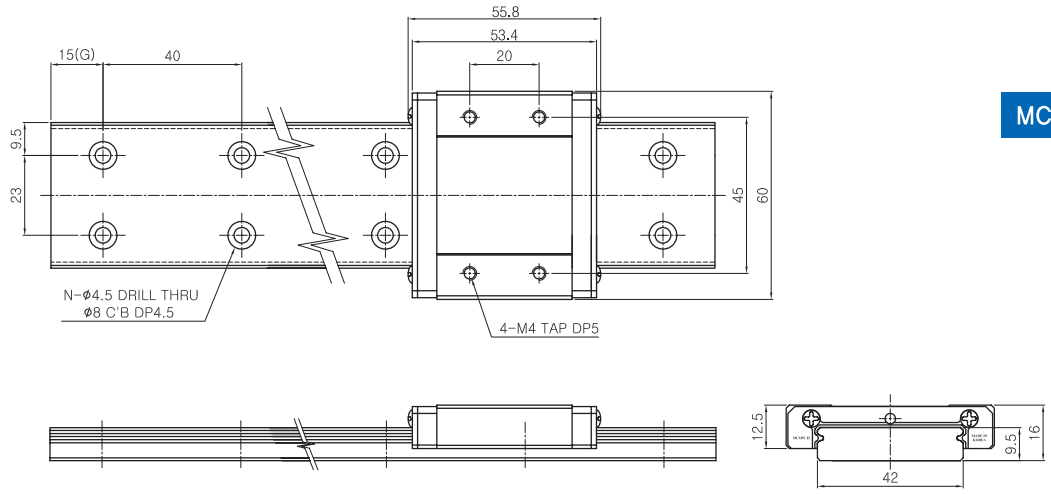
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		



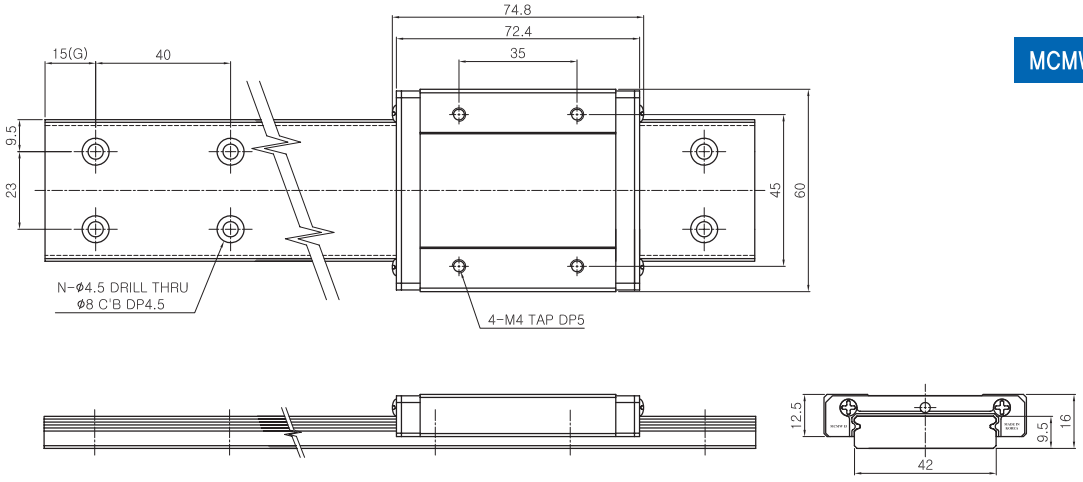


(표 1)

MCMW15



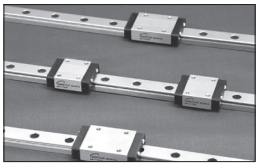
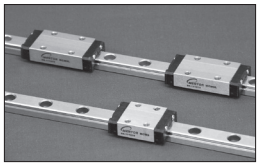
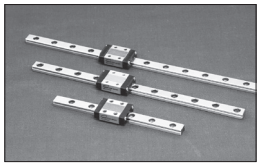
MCMW15L



표준길이

70	110	150	190	230	270	310
350	390	430	470	510	550	590
630	670	710	750	790	830	870
1000						

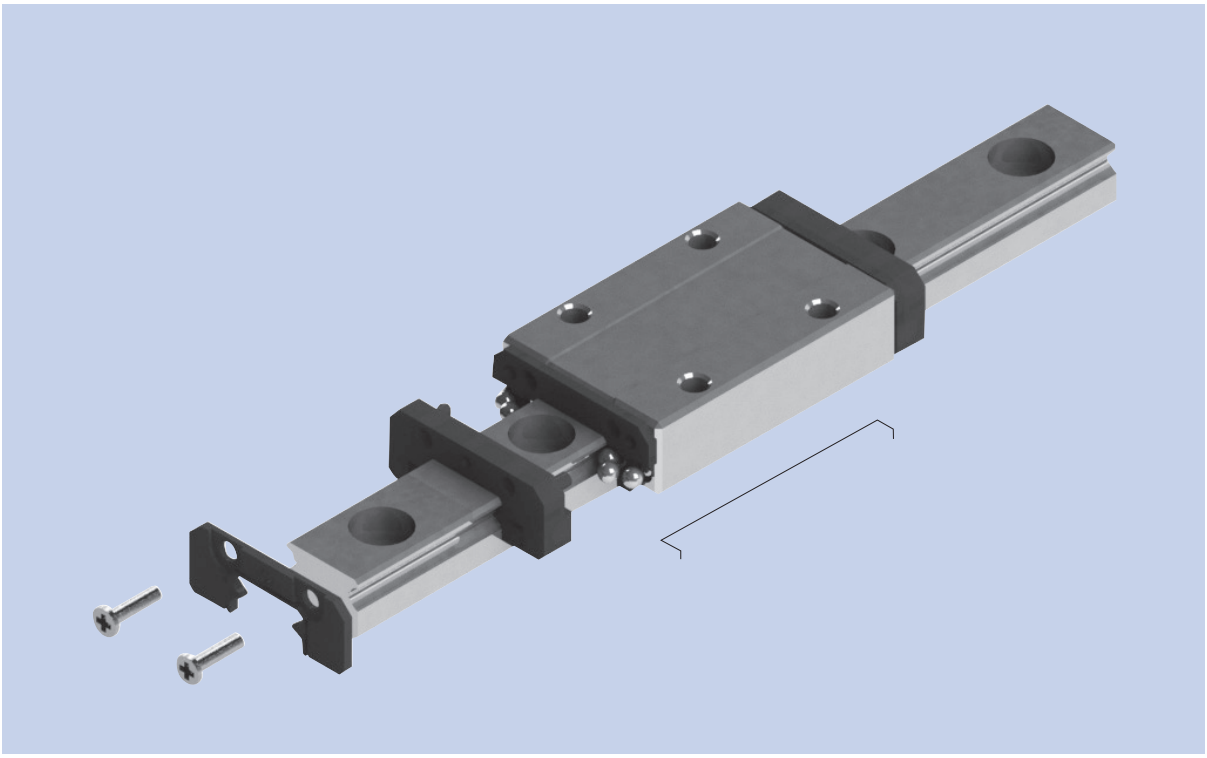
Miniature Guide

MCM 3
MCM 5
MCM 7
MCM 9
MCM 12
MCM 15
MCMW 5
MCMW 7
MCMW 9
MCMW 12
MCMW 15

Miniature Linear Guide

〈Fig.1〉 Structure of miniature linear guide model AM



Structure

MENTOR miniature linear guide MCM has a structure in which the balls contacting rails al 4 points are arranged with 2 set, thus, despite of its small size, provides a stabilized accuracy and rigidity even for use under load and combined loads where a direction and size can be twisted. There is a wide selection of forms and sizes for you to choose a suitable one according to use.

Features

■ Ball retianer

Linear ball support block attached to the ball retainer and captive rail and block the smooth replacement.

■ Perfect design ensures low noise and lubrication

See complete design cycle of integrated blocks to guide the engineering of plastic materials used in the linear block noise traveling and lubricant supply.

■ Development of new technologies and smooth motion

Piece returned the ball to infinite loop and block guide design consisting of integrated linear blocks are horizontal and vertical movement is possible under certain conditions to is smooth.

■ Excellent corrosion resistance

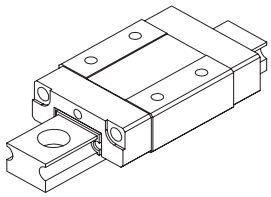
Linear rail and block are corrosion-resistant and acid-resistant stainless steel is used in the semiconductor equipment, medical equipment, measuring, printing, embroidery and other precision devices that are widely used in industry.

■ Safety Design

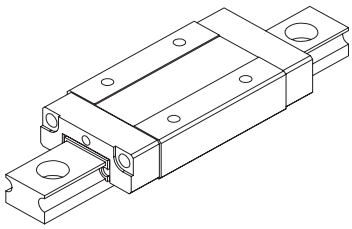
Miniature linear rail and block, using the high corrosion resistance of stainless steel and has a lot of moisture and chemical composition of the environment, it may cause corrosion, high quality black coating and a special coating to increase to the maintenance effect.

Types

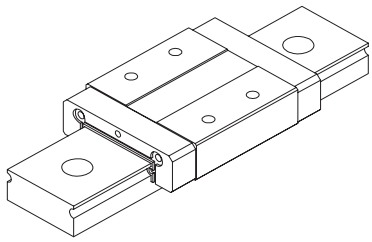
〈Fig.2〉 Types of miniature Linear guide



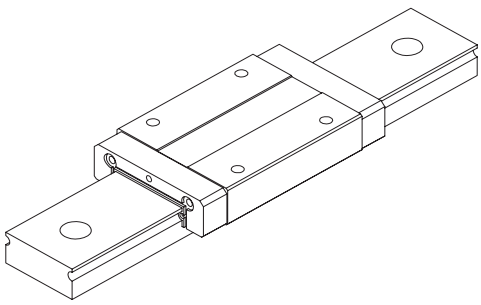
Standard type MCM



Standard long type MCML



Wide type MCMW



Wide long type MCMWL

Radial clearance

radial clearance for the blocks onto the rails in the assembled state of the rail fixed to the base block in the vertical direction to exert a light load at a center portion of the movement amount. Miniature linear guides include.a K1, K2 be two radial clearance.

〈Table.1〉 Radial clearance (K_1, K_2) (Unit:㎛)

Preload conditions	Normal	Light preload
Part no.	K_1	K_2
5	−2 ~ +2	−4 ~ 0
7	−2 ~ +2	−4 ~ 0
9	−2 ~ +2	−4 ~ 0
12	−2 ~ +2	−6 ~ 0
15	−2 ~ +2	−10 ~ 0

Seal resistance

One block is assembled with seals, and seal resistance figures is one miniture block as shown in the table below.

〈Table.2〉 Seal resistance figures

Part no.	AM	AML	AMW	AMWL
5	0.1	–	–	–
7	0.2	0.2	0.6	06
9	0.2	0.2	0.8	0.8
12	0.59	0.59	1.1	1.1
15	1.18	1.18	1.3	1.3

Design of the mounting surface

Linear block and table and bed rail installed on the mounting surface at the time of the first part of the required heighten.

Linear block and the edges of the mounting surface of the rail mounting surface to prevernt interference with chamfered portion of the radius R of dimensions must be carefuly processed.

〈Table.3〉 Seal resistance figures (Unit:㎛)

Part no.	Radius R	Linear block height H_1	Linear rail height H_2	E
MCM 5	0.2	3	1.2	1.5
MCM(L) 7	0.2	3	1.2	1.5
MCM(L) 9	0.3	3	1.9	2.2
MCM(L) 12	0.3	4	2.0	3.0
MCM(L) 15	0.3	5	2.5	4.0
MCMW 5	0.2	3	1.7	3.5
MCMW(L) 7	0.1	3	3.4	3.7
MCMW(L) 12	0.3	4	3.7	4.0
MCMW(L) 15	0.3	5	3.4	3.7

Accuracy

As shown in the table.4 race degree parallelism, permissible deviation in dimensions of height, width is one of several blocks to the rails on the same plane, or if the number of tails needed by the mounting height, width, and also of rule.

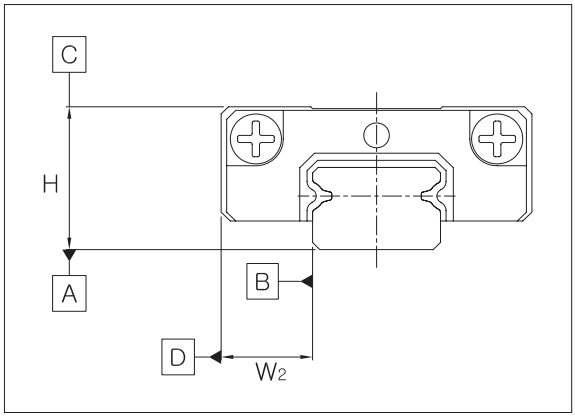
Accuracy grade

Normal grade, high, separated by precision step 3. Combination of block size and the corresponding grade of the rail with a maximum error.

〈Table.4〉 Seal resistance figures (Unit:㎛)

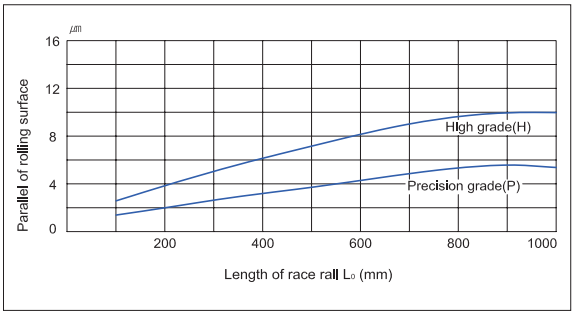
Accuracy grade	Normal graed	High graed	precision grade
Symbol / Item	N	H	P
Permissible deviation in dimensions of height H	±40	±20	±10
Permissible deviation in dimensions of width W2	±40	±25	±15
Pair deviation of height H	30	15	7
Pair deviation of height W2	30	20	10
Ⓐ side face of the Ⓒ race parallelism	Refer to〈Fig.4〉		
Ⓑ side face of the Ⓓ race parallelism			

〈Fig.4〉



Types

〈Fig.5〉



Use a special environment

High quality black special coating or grease according to the conditions applicable to a variety of disciplines and will help durability.

〈Table.5〉

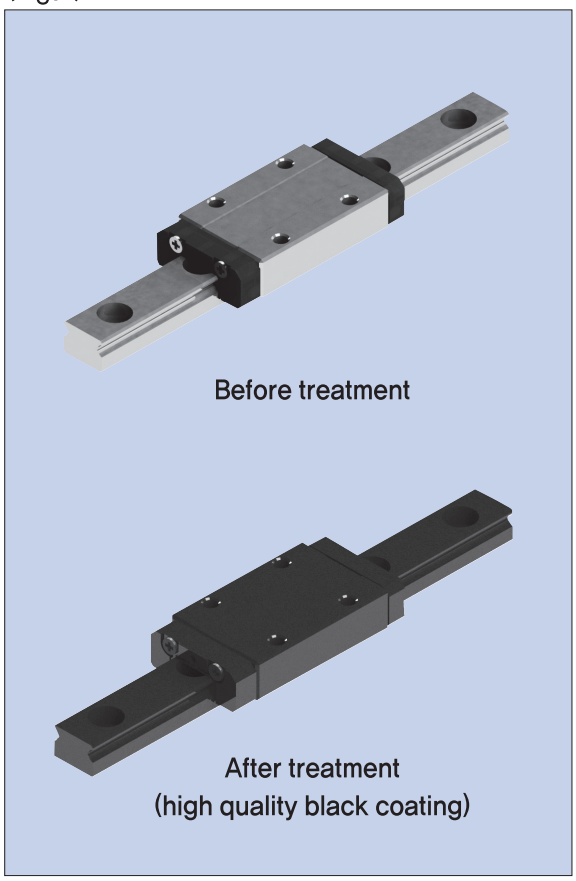
Use environment	Caution when using	Improvement	
(Clean room) Semiconductor, sensor, medical equipment	when used a clean room in a miniature linear guide and the inhibition caused by rash or particles must be	Grease	Use low dust generation grease
(Vacuum) Semiconductor, sensor,medical equipment	Corrosion is not possible using current skills and excellent corrosion environment	Grease	Useing vacuum grease
		Coating	Black special coating

Surface treatment

■ Low tempearture fluorination chrome plating

Black chrome coating on the product and where high corrosion resistance is required, such as low dust and clean rooms and the best surface treatment to improve the appearance quality are used where necessary.

〈Fig.6〉



■ Electrolytic corrosion coating black (black chrome plating)

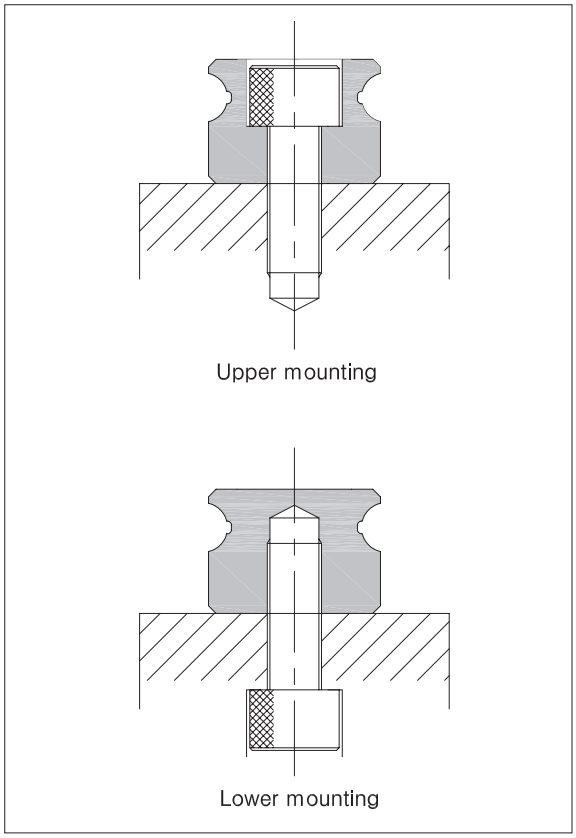
Industrial stainless steel or black chrome corrosion resistance and decorative manner,the light of the purposes of the anti-reflection.

■ Industrial hard chrome plating

Industrial stainless steelor black chrome corrosion resistance and decorative manner, the light of the purposes of the anti-reflection.

Rail mounting method

〈Fig.7〉

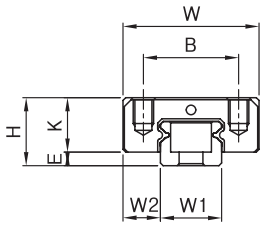


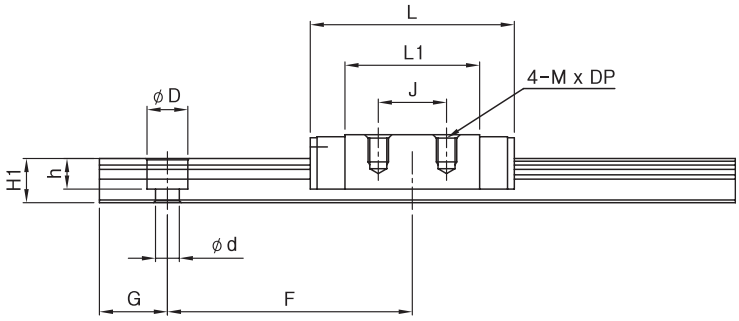
■ Bolt mounting torque

Linear guide installation meets the specifications of the mounting torque of the bolt must be Fastening. Mounting torque listed in the following table is achieved to a great accuracy.

〈Table.5〉

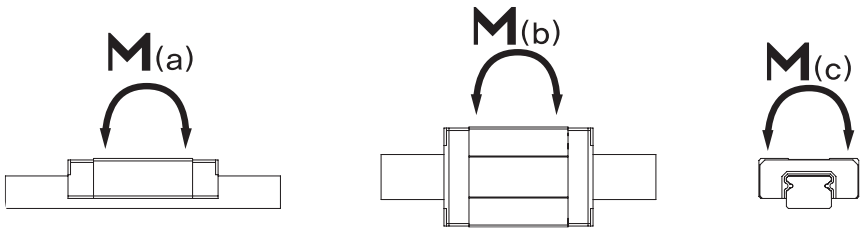
Part no.	Bolt	Mounting torque
MCM 5	M2×0.4×4L	57 / (5.9)
MCM 7	M2×0.4×6L	57 / (5.9)
MCM 9	M3×0.5×8L	186 / (19)
MCM 12	M3×0.5×8L	186 / (19)
MCM 15	M3×0.5×10L	186 / (19)
MCMW 5	M3×0.5×6L	186 / (19)
MCMW 7	M3×0.5×8L	186 / (19)
MCMW 12	M4×0.7×8L	392 / (40)
MCMW 15	M4×0.7×10L	392 / (40)





(Unit : mm)

Model Number	Dimensions of Assembly				Dimensions of Block						Dimensions of Rail								
	H	W	L	E	B	J	M	DP	L1	K	W1	W2	H1	F	d	D	h	G	Max L0
MCM3	4	8	11	1		3.5	M1.6	1.3	7	3	3	2.5	2.6	10	M1.6 TAP THRU			5	100
MCM5	6	12	16.4	1.5	8		M2	1.5	10	4.5	5	3.5	3.7	15	2.4	3.5	0.8	5	200
MCMW5	6.5	17	20.5	1.5	13		M2.5	1.5	14	5	10	3.5	4	20	2.9	4.8	1.6	5	200
MCM7	8	17	24.8	1.5	12	8	M2	3	15	6.5	7	5	4.7	15	2.4	4.2	2.4	5	600
MCM7L	8	17	32.8	1.5	12	13	M2	3	23	6.5	7	5	4.7	15	2.4	4.2	2.4	5	600
MCMW7	9	25	31.2	2	19	10	M3	3	21	7	14	5.5	5.2	30	3.5	6	3.2	10	1000
MCM9	10	20	29.8	2	15	10	M3	4	19.5	8	9	5.5	6.5	20	3.5	6	3.5	7.5	1000
MCM9L	10	20	40.6	2	15	16	M3	4	30	8	9	5.5	6.5	20	3.5	6	3.5	7.5	1000
MCMW9	12	30	40.2	3	21	12	M3	4	27.5	9	18	6	7.5	30	3.5	6	4.5	10	1000
MCMW9L	12	30	51.5	3	23	24	M3	4	38.6	9	18	6	7.5	30	3.5	6	4.5	10	1000
MCM12	13	27	35	3	20	15	M3	4	21.5	10	12	7.5	8	25	3.5	6	4.5	10	1000
MCM12L	13	27	46.9	3	20	20	M3	4	33.2	10	12	7.5	8	25	3.5	6	4.5	10	1000
MCMW12	14	40	47	3.5	28	15	M3	4	31.4	10.5	24	8	8.5	40	4.5	8	4.5	15	1000
MCMW12L	14	40	61.7	3.5	28	28	M3	4	45.8	10.5	24	8	8.5	40	4.5	8	4.5	15	1000
MCM15	16	32	43	4	25	20	M3	5	26.7	12	15	8.5	10	40	3.5	6	4.5	15	1000
MCM15L	16	32	60	4	25	25	M3	5	43.4	12	15	8.5	10	40	3.5	6	4.5	15	1000
MCMW15	16	60	55.8	3.5	45	20	M4	5	38	12.5	42	9	9.5	40	4.5	8	4.5	15	1000
MCMW15L	16	60	74.8	3.5	45	35	M4	5	57	12.5	42	9	9.5	40	4.5	8	4.5	15	1000

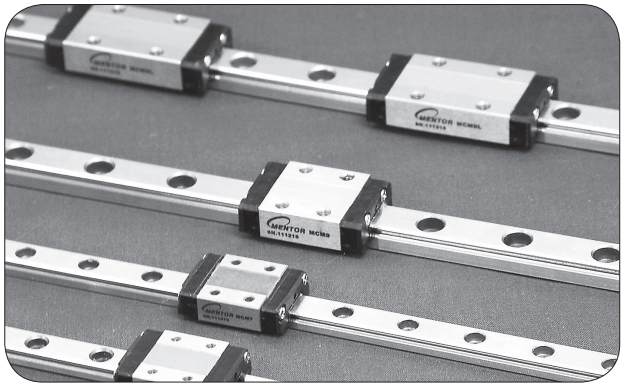


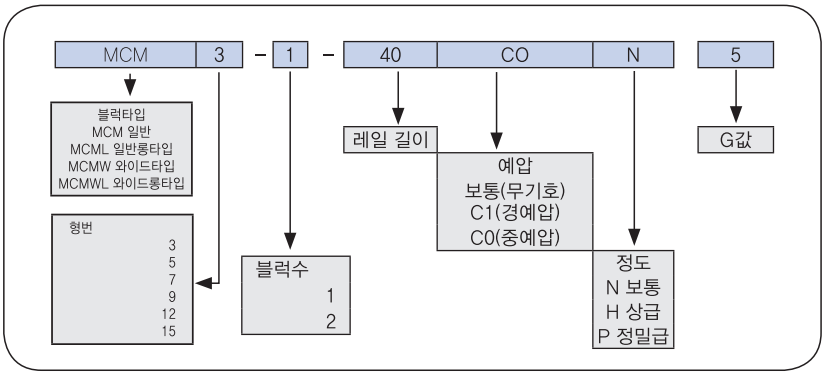
(Unit : mm)

Model Number	Basic Load Rating		Static Rated Moment (N · m)			Weight	
	C kN	C0 kN	M(a)	M(b)	M(c)	Block kg	Rail kg
MCM3	0.18	0.26	0.29	0.29	0.45	0.0011	0.055
MCM5	0.32	0.58	0.88	0.88	1.5	0.003	0.14
MCMW5	0.5	0.95	1.95	1.95	4.9	0.007	0.28
MCM7	0.88	1.37	2.93	2.93	5	0.013	0.23
MCM7L	1.59	2.5	8.68	8.68	9.12	0.018	0.23
MCMW7	1.37	2.16	7.02	7.02	15.4	0.021	0.51
MCM9	1.47	2.25	7.34	7.34	10.4	0.018	0.32
MCM9L	2.6	3.96	18.4	18.4	18.4	0.027	0.32
MCMW9	2.44	3.92	16	16	36	0.035	1.08
MCMW9L	3.52	5.37	31	31	49.4	0.05	1.08
MCM12	2.65	4.02	11.4	10.1	19.2	0.037	0.58
MCM12L	4.3	6.65	28.9	25.5	31.8	0.055	0.58
MCMW12	4.02	6.08	24.5	21.7	59.4	0.074	1.5
MCMW12L	5.96	9.21	53.9	47.3	90.1	0.101	1.5
MCM15	4.41	6.57	23.7	21.1	38.8	0.069	0.93
MCM15L	7.16	10.7	63.1	55.6	63	0.093	0.93
MCMW15	6.65	9.8	50.3	44.4	167	0.17	3
MCMW15L	9.9	14.9	110	97.2	255	0.2	3

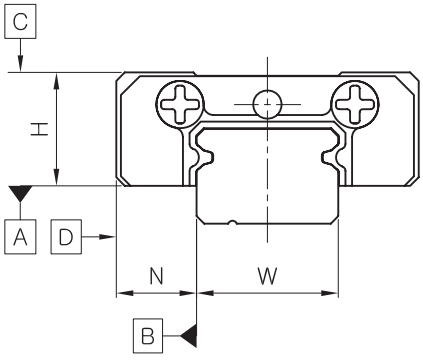
MCM 3

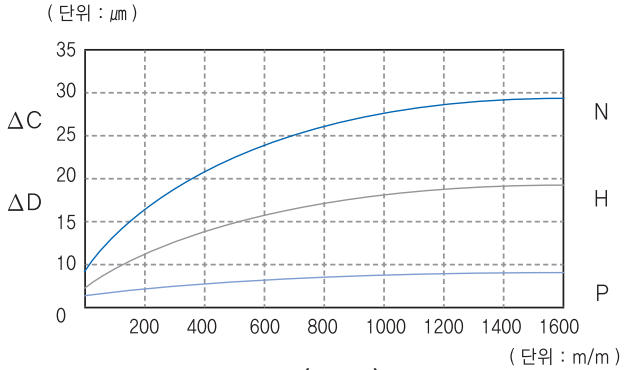
미니츄어 가이드
Miniature Guide





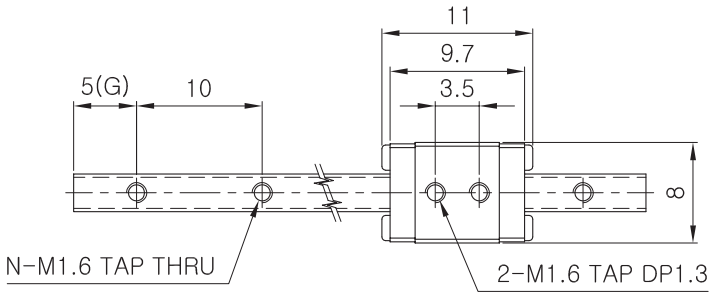
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		

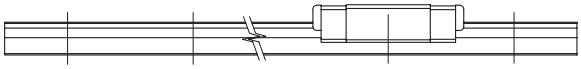


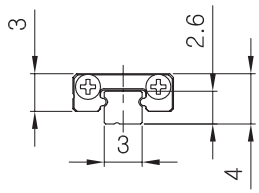


(표 1)

MCM3





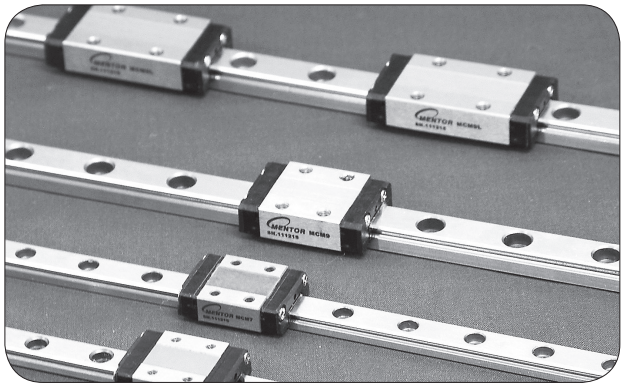


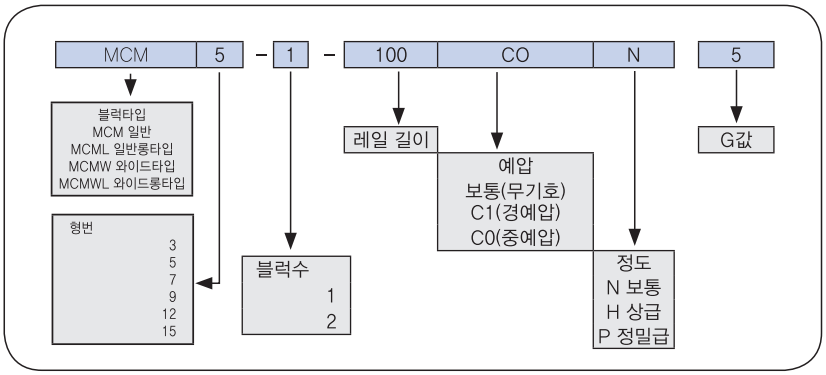
표준길이

40	50	60	70	80	90	100
110	120	130	140	150	160	170
180	190	200	210	220	230	240
250	260	270	280	290	300	

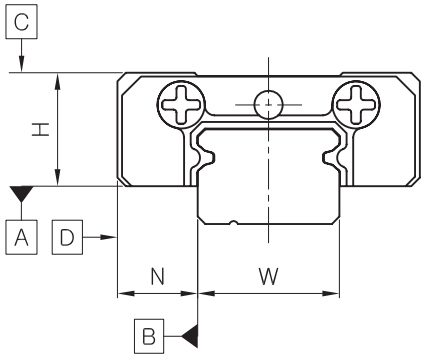
MCM 5

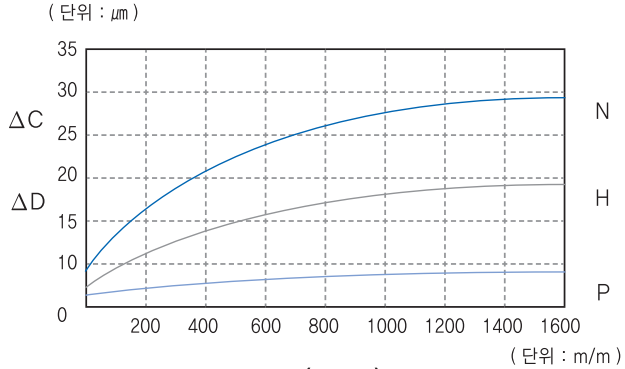
미니츄어 가이드
Miniature Guide





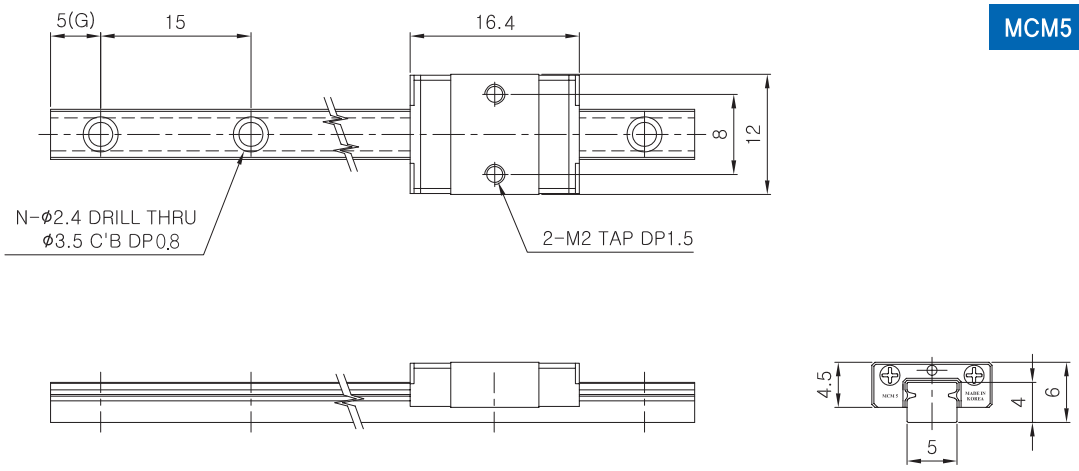
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		





(표 1)

MCM5

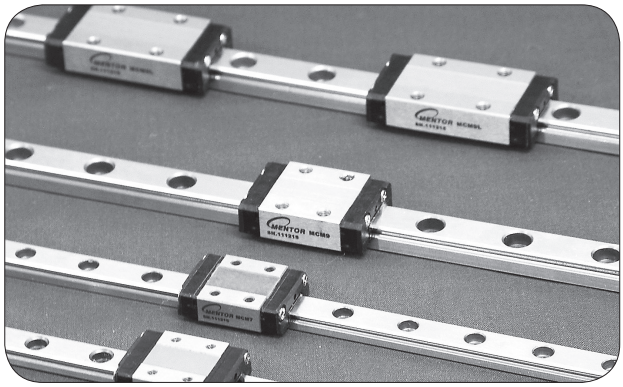


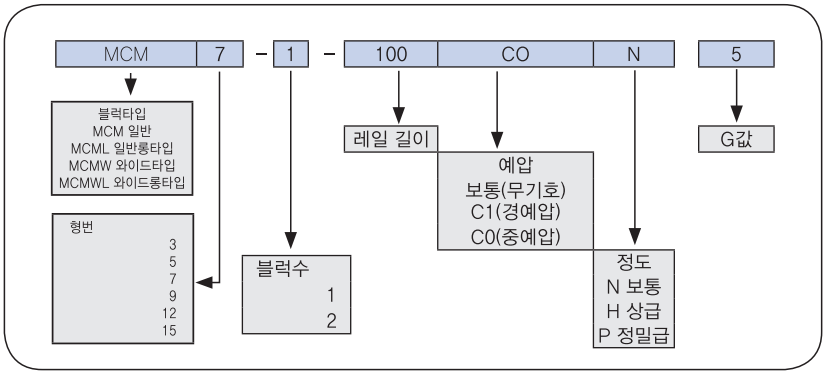
표준길이

40	55	70	85	100	115	130
145	160	175	220	265	310	340
385	400					

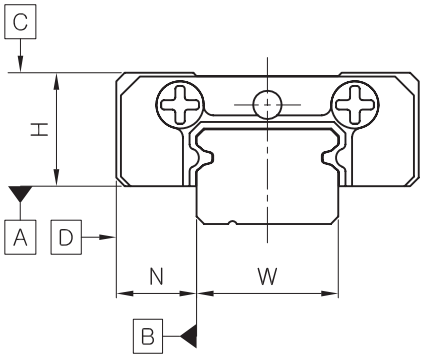
MCM 7

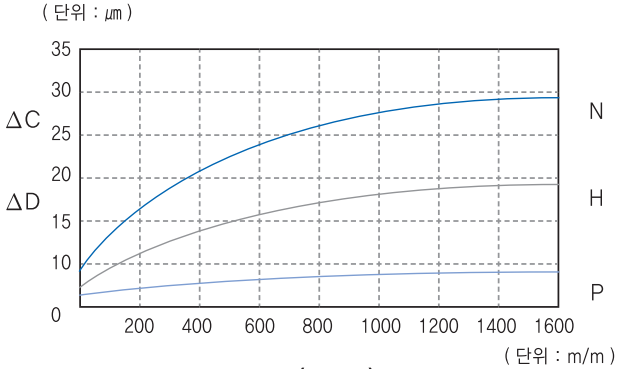
미니츄어 가이드
Miniature Guide





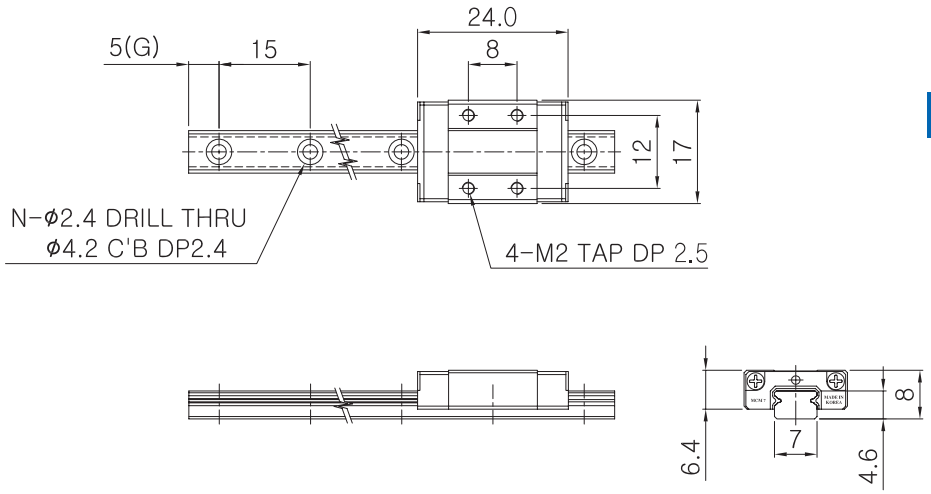
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		



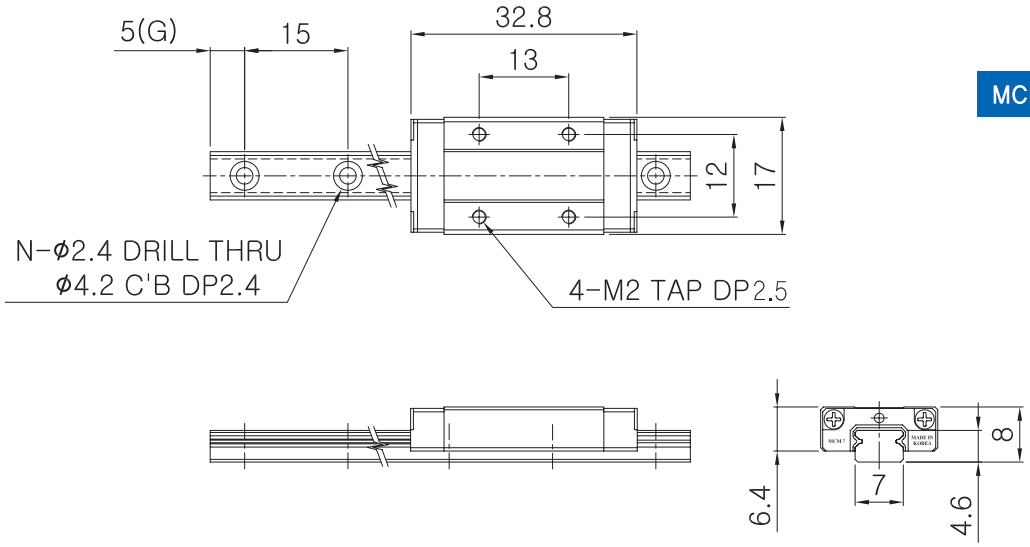


(표 1)

MCM7



MCM7L

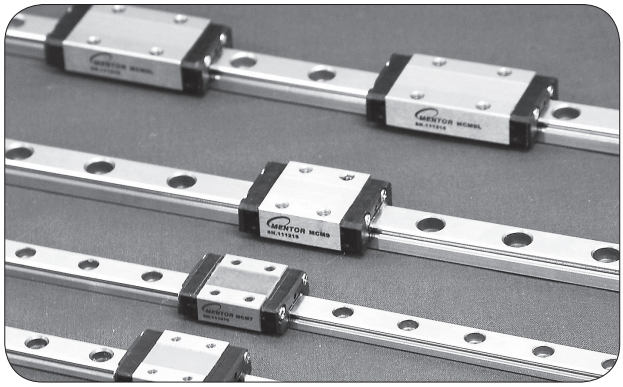


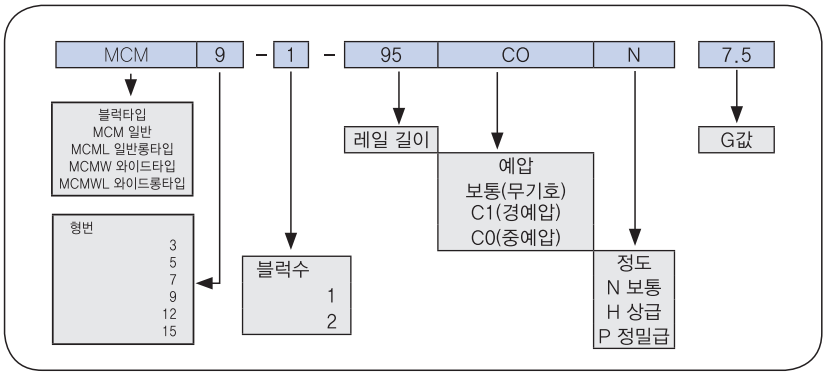
표준길이

40	55	70	85	100	115	130
145	160	175	220	250	280	310
340	370	400	430	460	490	520
550	580	610	640	670	700	

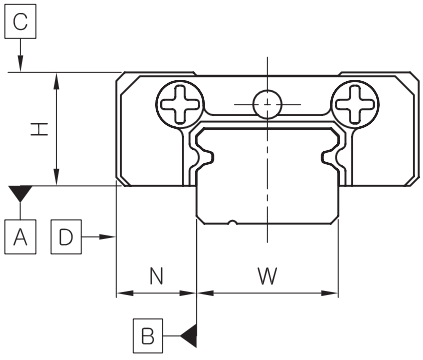
MCM 9

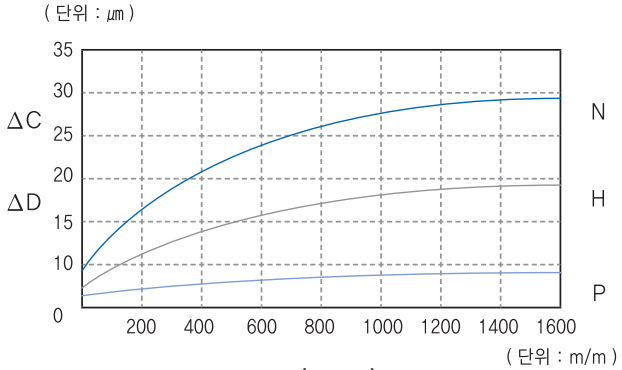
미니츄어 가이드
Miniature Guide





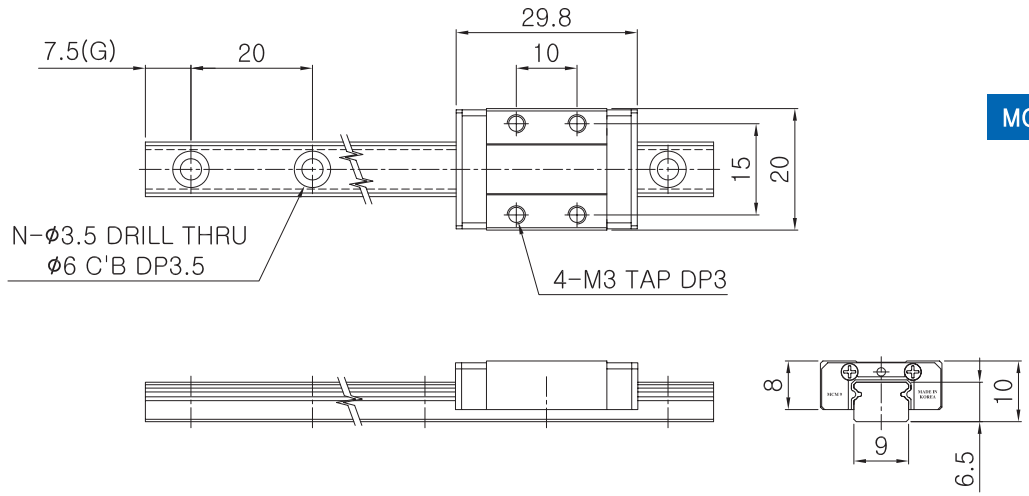
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		



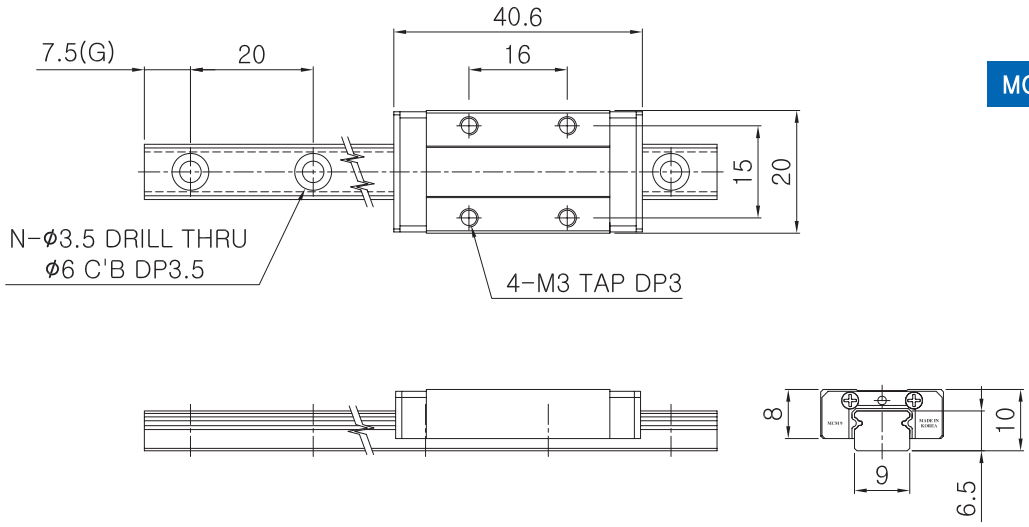


(표 1)

MCM9



MCM9L

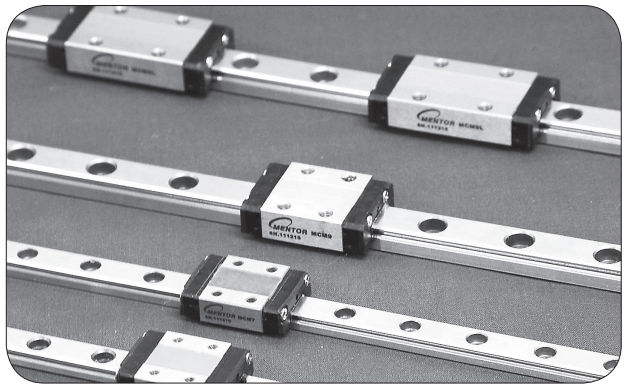


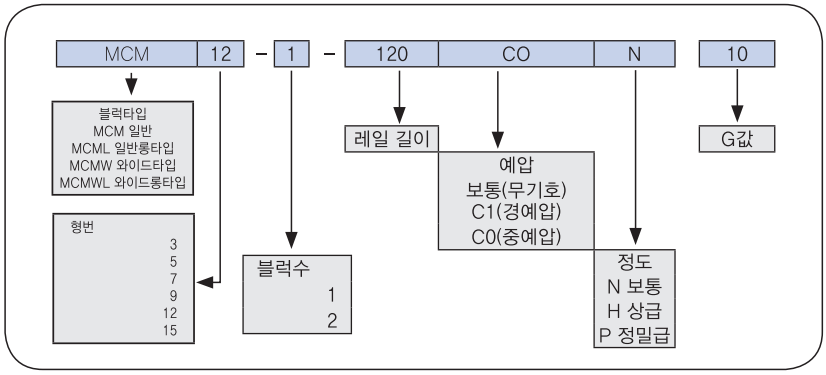
표준길이

55	75	95	115	135	155	175
195	215	235	255	275	295	335
395	415	475	515	575	595	655
695	715	775	815	895	1000	

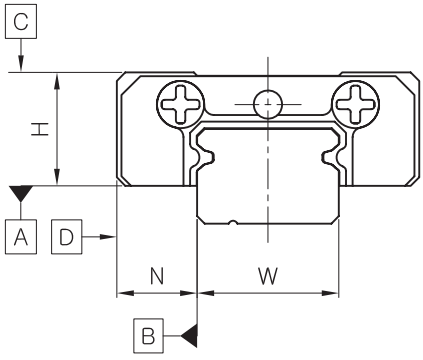
MCM 12

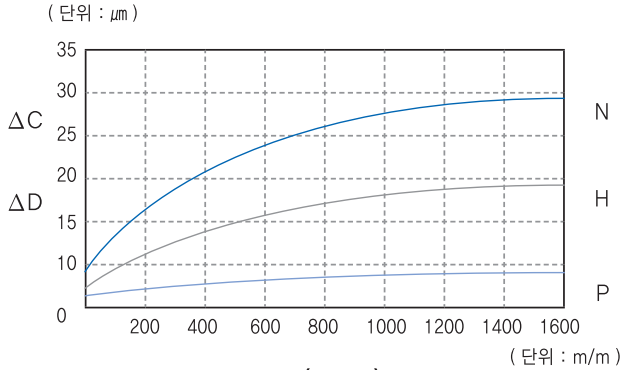
미니츄어 가이드
Miniature Guide





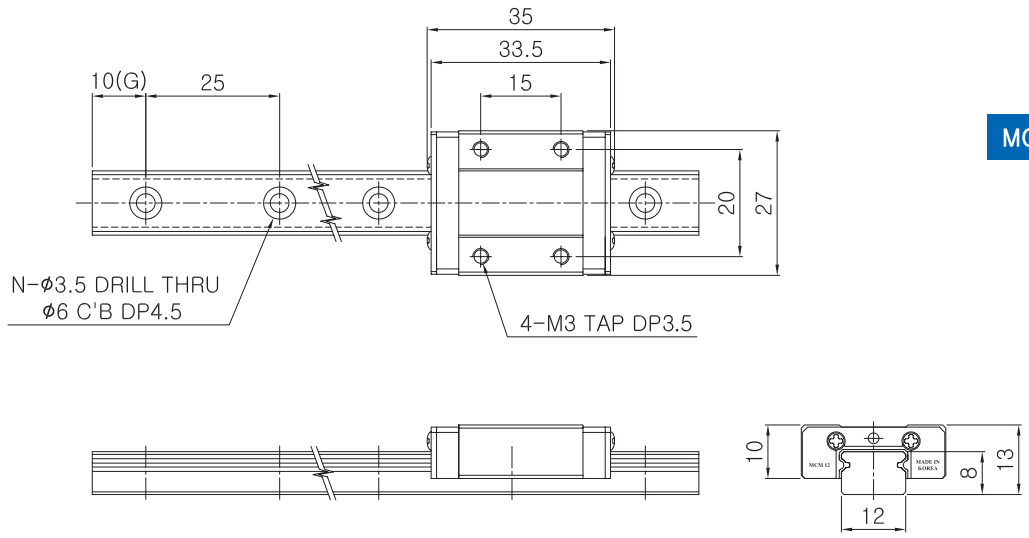
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		



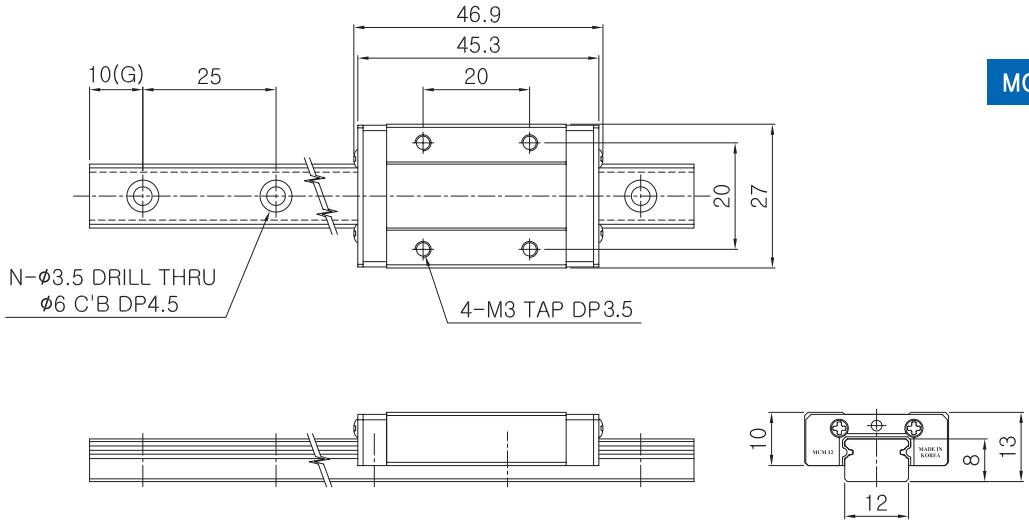


(표 1)

MCM12



MCM12L

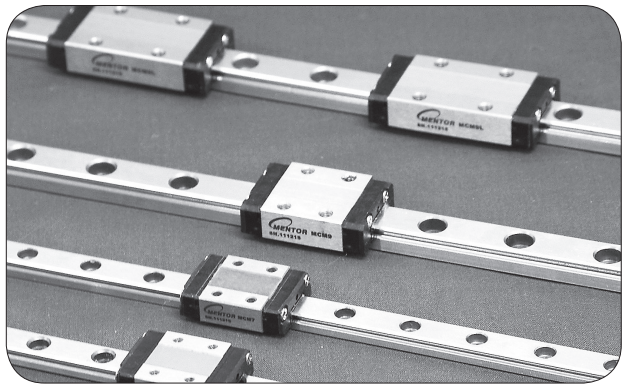


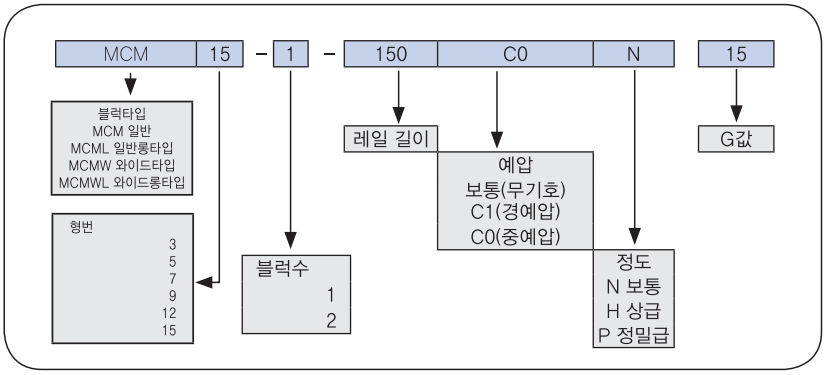
표준길이

70	95	120	145	170	195	220
245	270	295	345	370	420	445
495	520	570	595	645	670	720
745	795	845	895	920	1000	

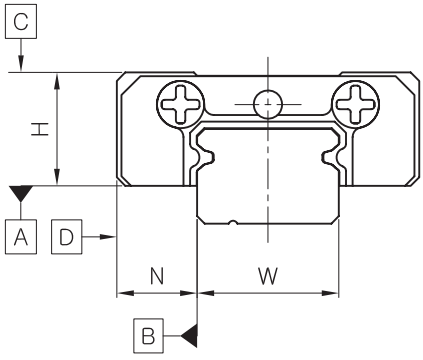
MCM 15

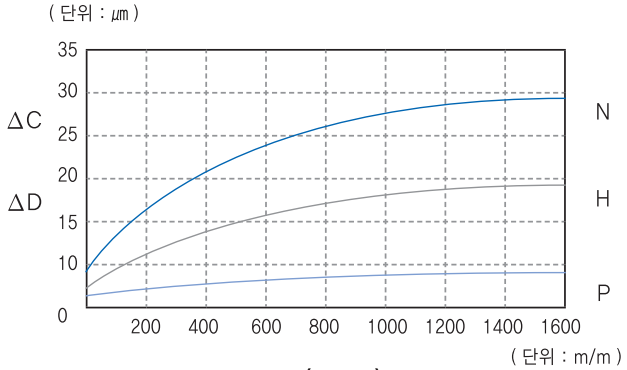
미니츄어 가이드
Miniature Guide





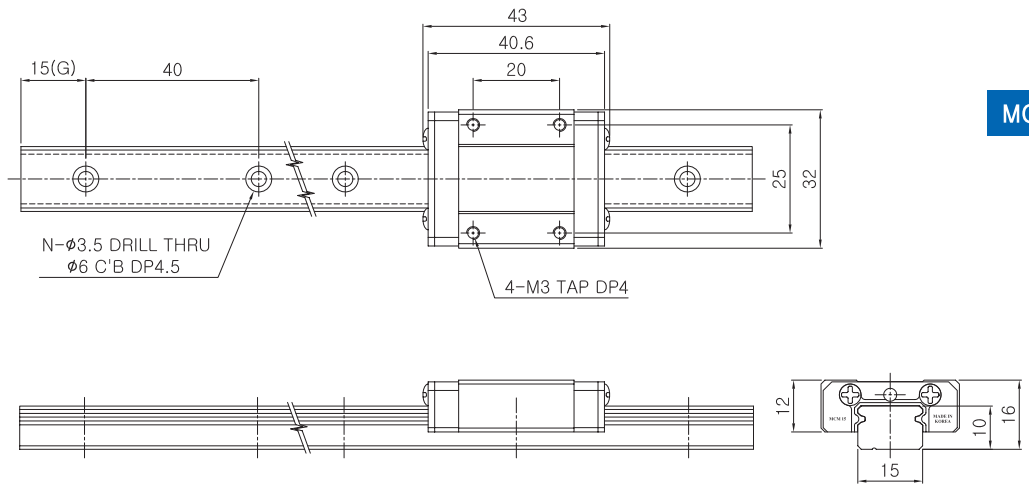
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		



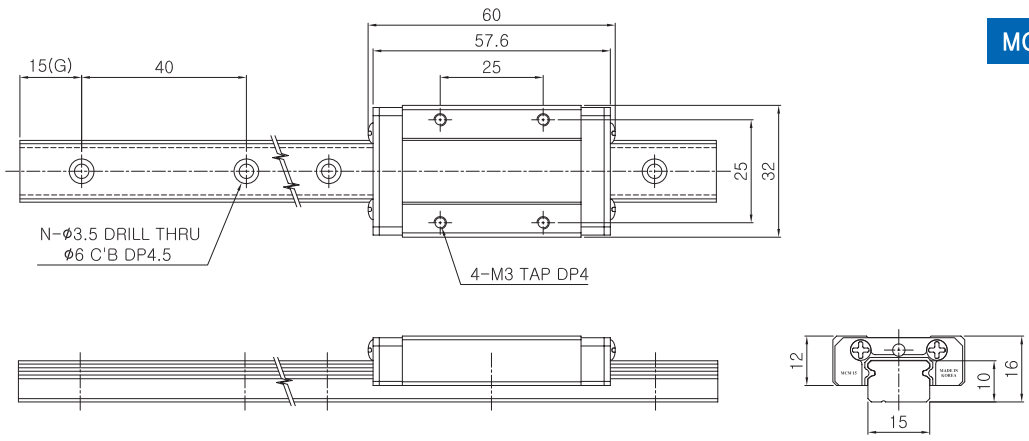


(표 1)

MCM15



MCM15L

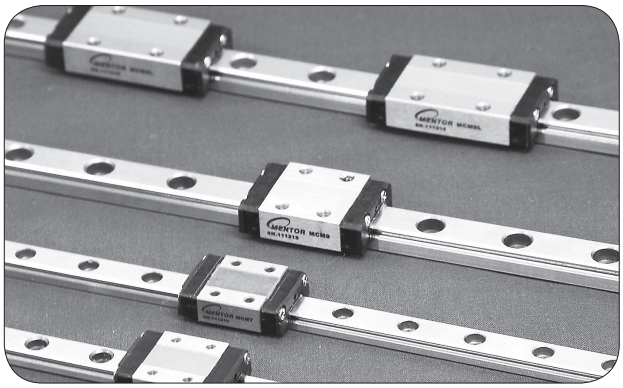


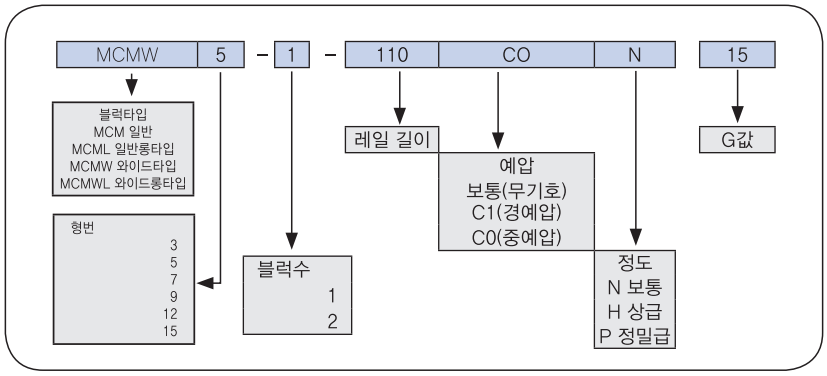
표준길이

70	110	150	190	230	270	310
350	390	430	470	510	550	590
630	670	710	750	790	830	870
1000						

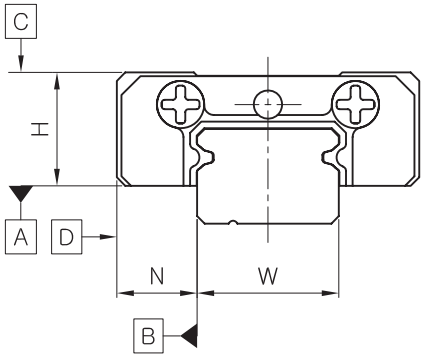
MCMW 5

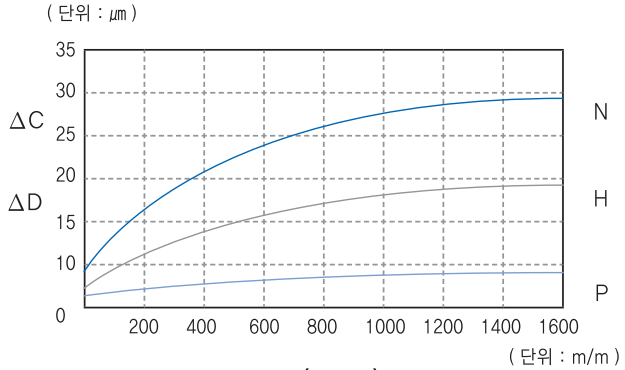
미니츄어 가이드
Miniature Guide





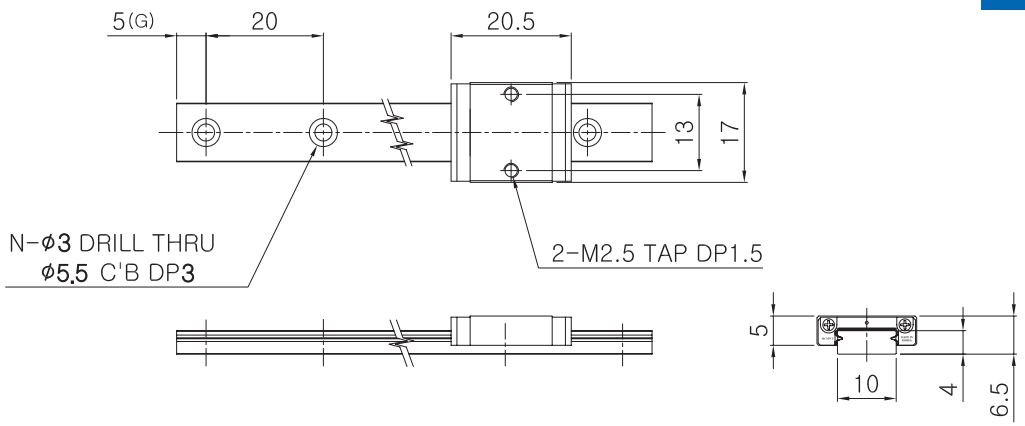
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		





(표 1)

MCMW5

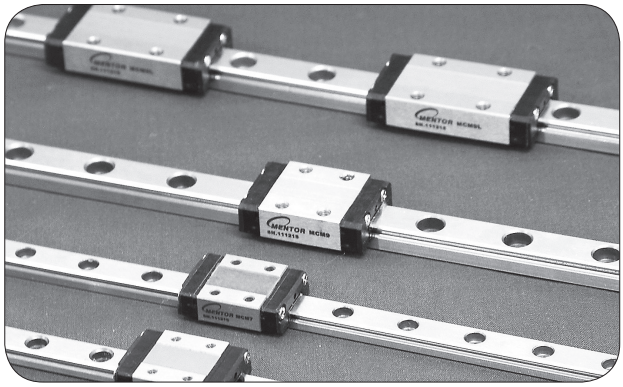


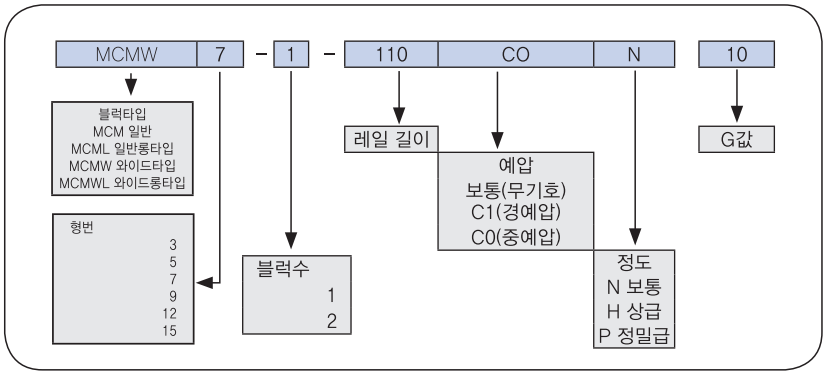
표준길이

50	70	90	110	130	150	170
190	210	230	250	270	290	310
330	350	370	390	410		

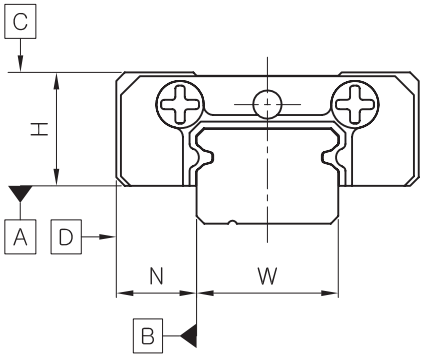
MCMW 7

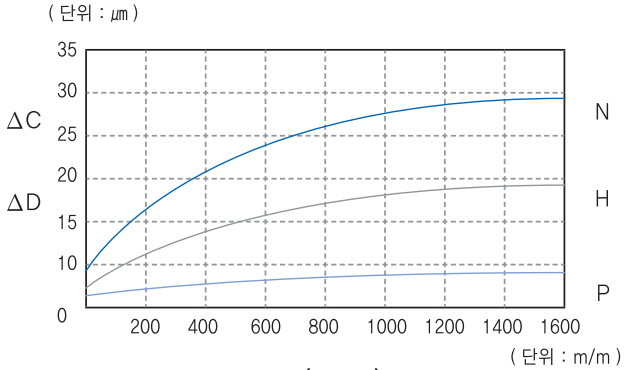
미니츄어 가이드
Miniature Guide





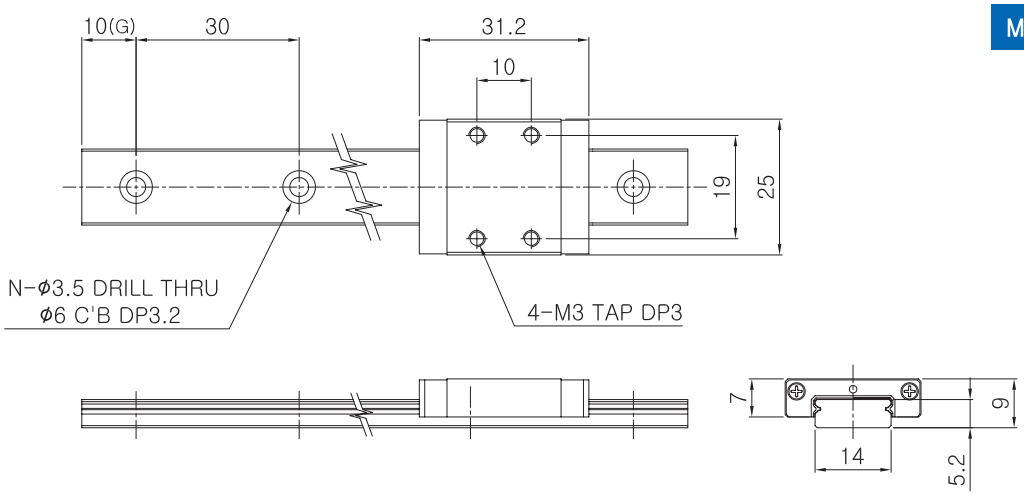
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		





(표 1)

MCMW7

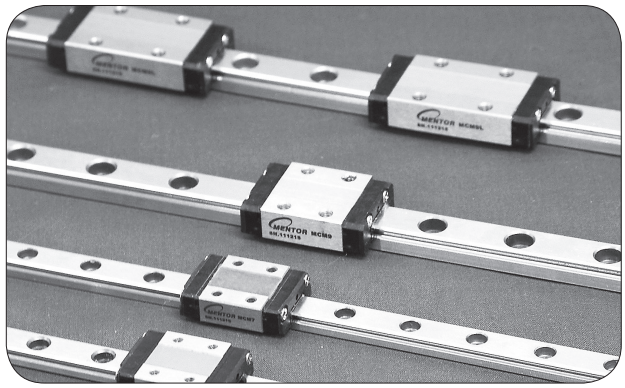


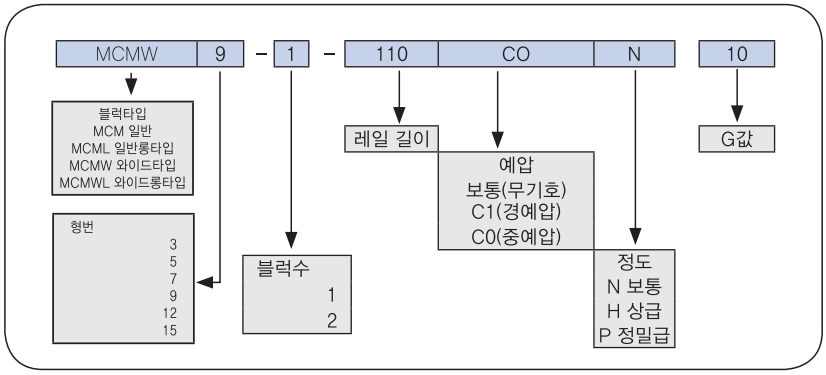
표준길이

50	80	110	140	170	200	230
260	290	320	350	380	410	440
470	500	530	560	590	620	650
680	710	740	770	800	830	860
890	1000					

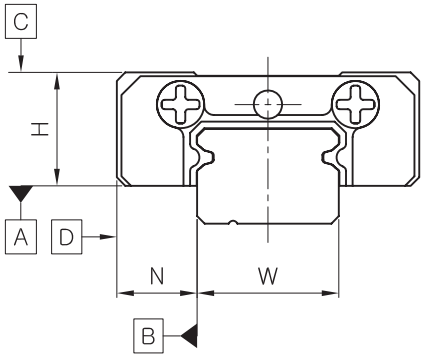
MCMW 9

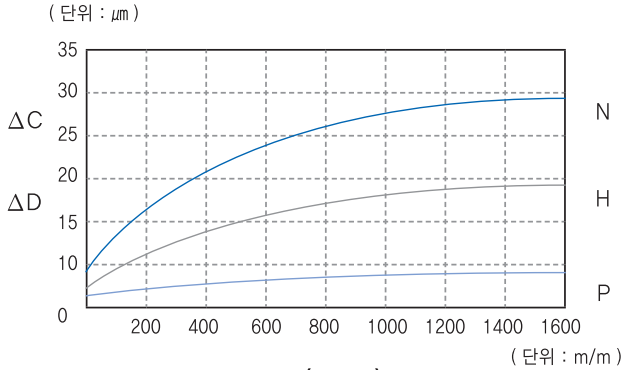
미니츄어 가이드
Miniature Guide





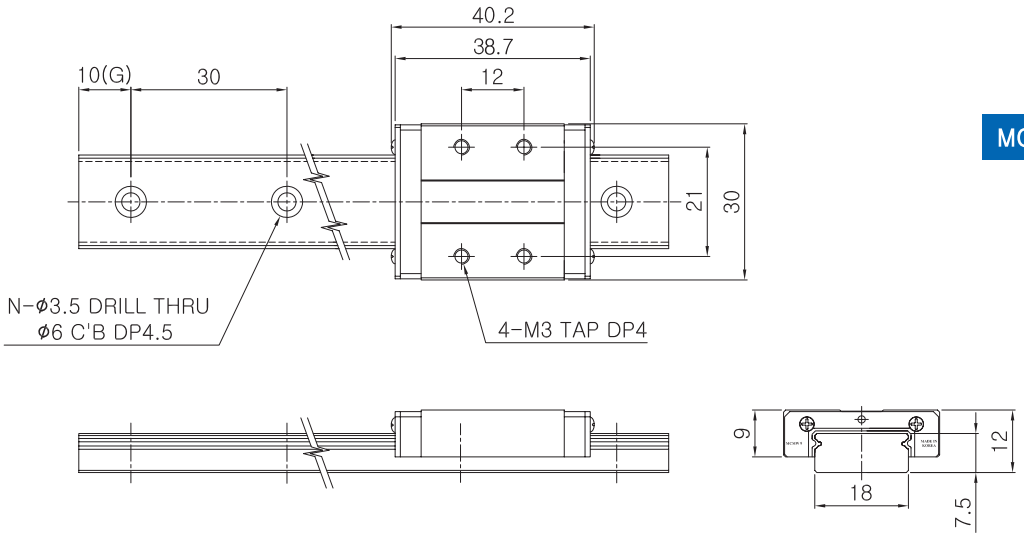
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		



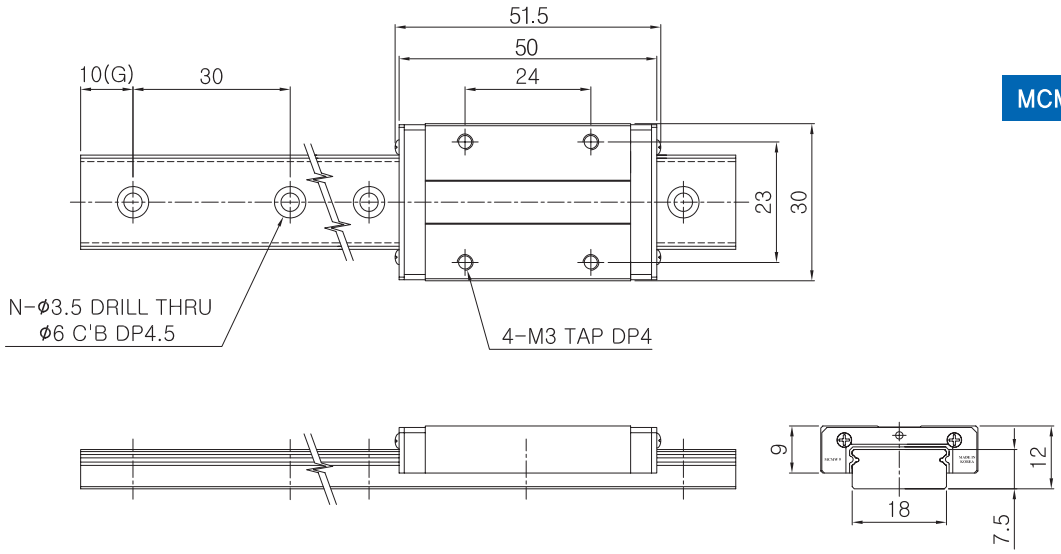


(표 1)

MCMW9



MCMW9L

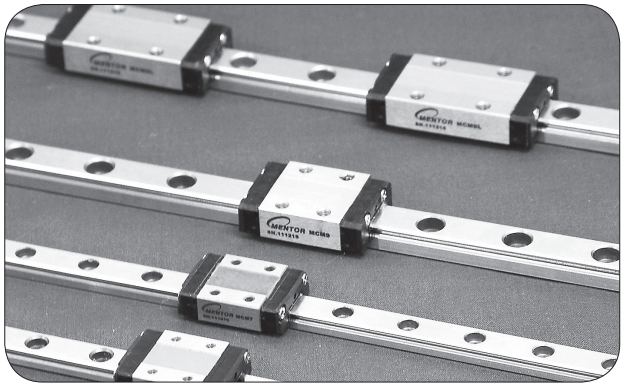


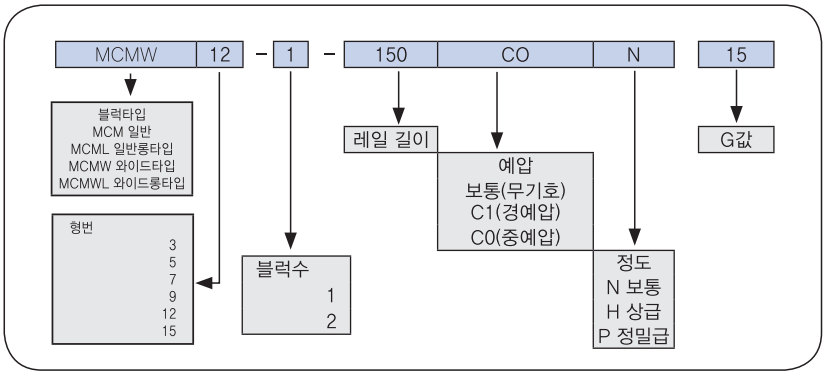
표준길이

50	80	110	140	170	200	230
260	290	320	350	380	410	440
470	500	530	560	590	620	650
680	710	740	770	800	830	860
890	1000					

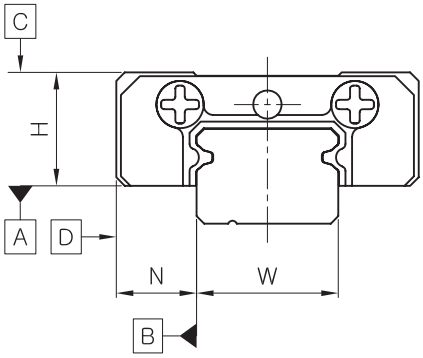
MCMW 12

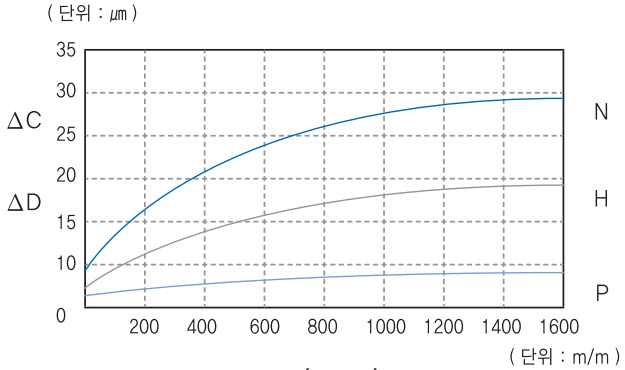
미니츄어 가이드
Miniature Guide





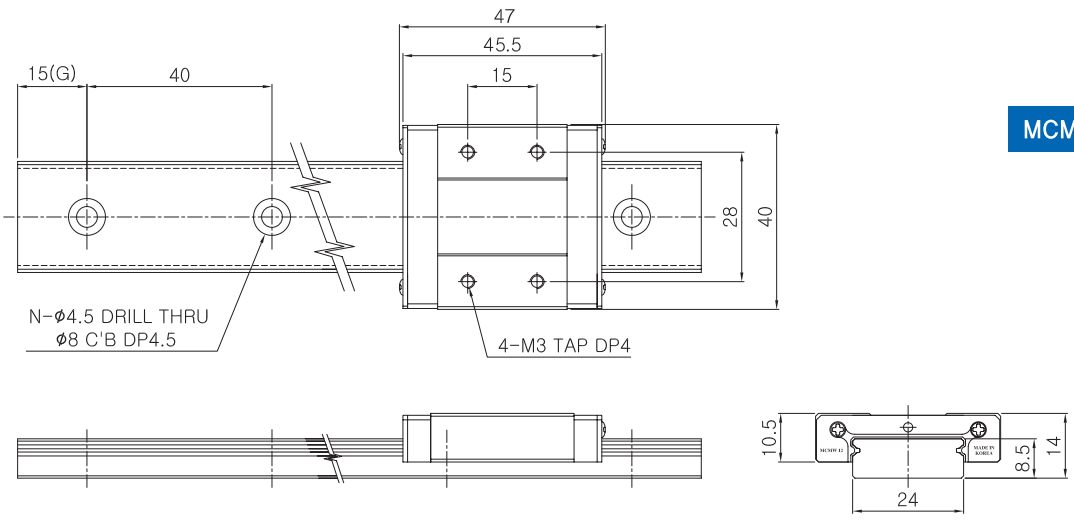
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		



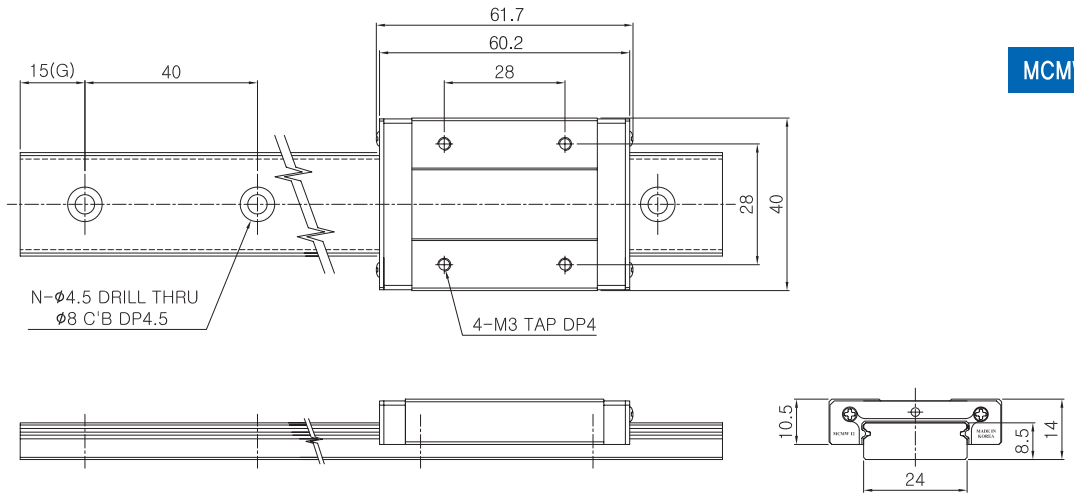


(표 1)

MCMW12



MCMW12L

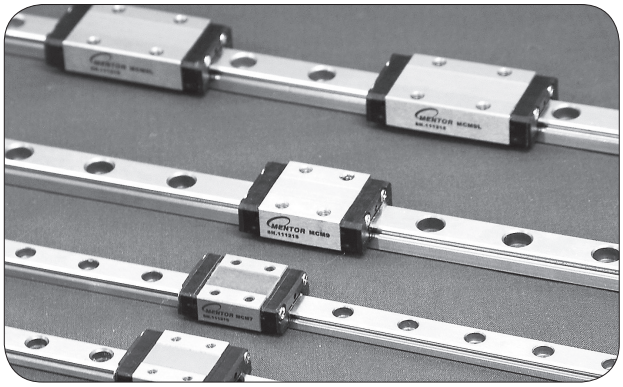


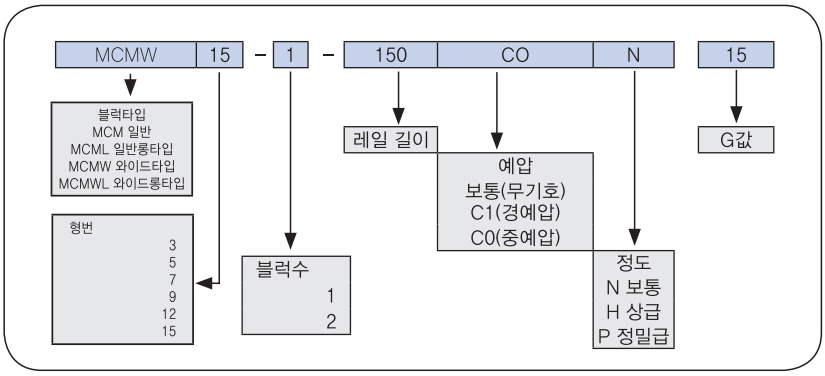
표준길이

70	110	150	190	230	270	310
350	390	430	470	510	550	590
630	670	710	750	790	830	870
1000						

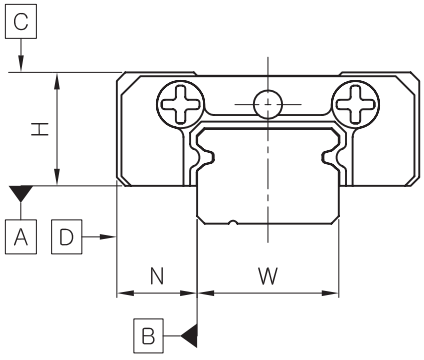
MCMW 15

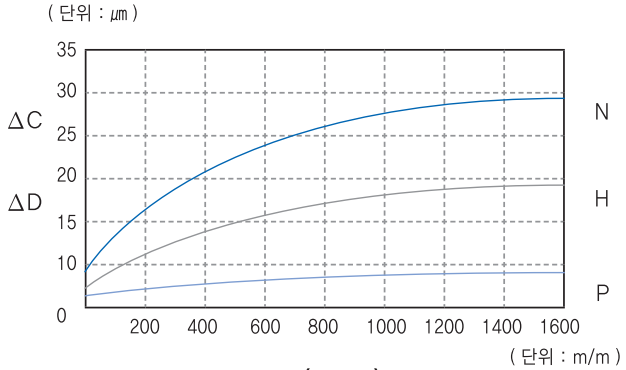
미니츄어 가이드
Miniature Guide





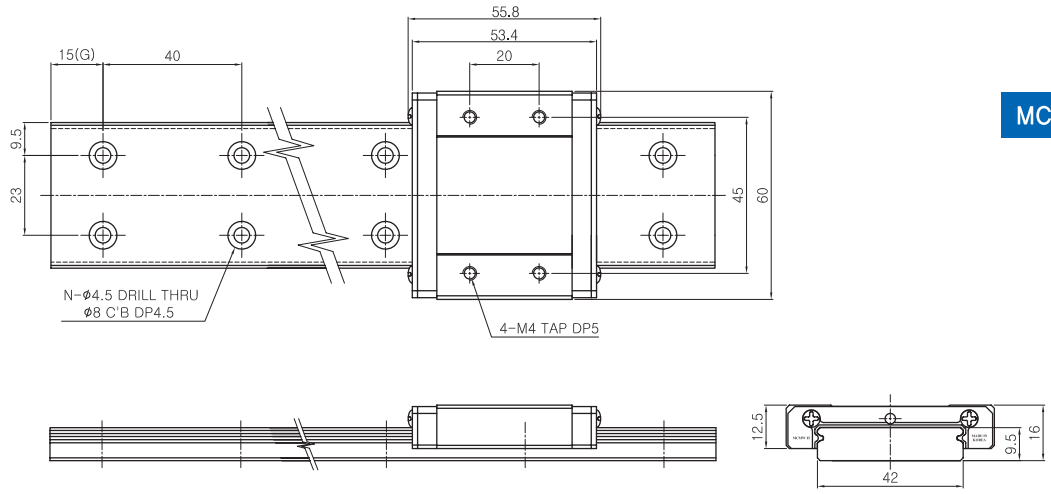
항 목	N (일반급)	H (상 급)	P (정밀급)
높이 H의 치수 허용차	±0.04	±0.02	±0.01
폭 N의 치수 허용차	±0.04	±0.025	±0.015
높이 H의 상호차	0.03	0.015	0.007
폭 N의 상호차	0.03	0.02	0.01
A면에 대한 C면의 주행평행도	ΔC(표1) 참조		
B면에 대한 D면의 주행평행도	ΔD(표1) 참조		



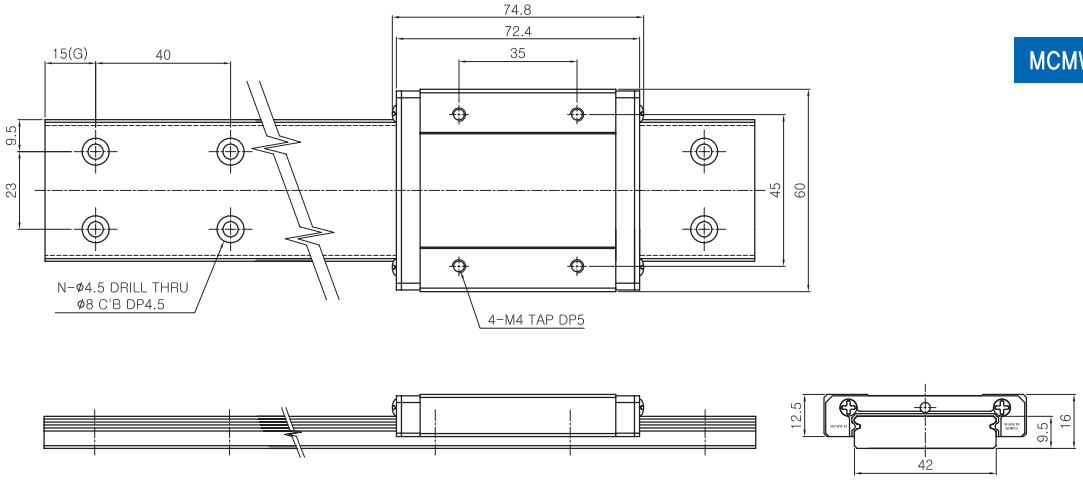


(표 1)

MCMW15



MCMW15L



표준길이

70	110	150	190	230	270	310
350	390	430	470	510	550	590
630	670	710	750	790	830	870
1000						

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2016. 04. 개정판

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Cross Roller Rotary Guide/ Actuator / Motorized Stage /
Manual Stage / Dovetail Stage / Micrometer Head / Support Unit

주식회사 멘토

본사 : 인천시 남동구 논현동 23-1 **T.** +82_32_325_2063/4 **F.** +82_32_321_0104
#23-1 Nonhyeon-dong, Namdong-gu, Incheon, 405-847, Korea

공장 : 경기도 김포시 대곶면 거물대리 70-18 **T.** +82_31_989_5606 **F.** +82_31_998-1606
70-18 Geomuldae-ri, Daegot-myeon, Gimpo-Shi, Gyeonggi-Do, KOREA 415-851