

C-Lube Linear Way ML Linear Way L

ML · LWL

C-Lube Linear Way ML

ML



Aquamarine endplate for identification of C-Lube Linear Way

Track rail

Slide unit
Casing

C-Lube

Steel balls

Endplate

End seal

Ball retaining band

Oil hole

Linear Way L

LWL

Features

Simple structure of smallest size

A micro miniature linear motion rolling guide is produced by the simple structure of two-row and four-point contact and original small sizing technology. The smallest size, LWL1 is track rail width of only 1mm.

Wide variation corresponding to needs

Two shapes of track rail, standard type and wide type are lined up with four variations in length of slide unit. Wide type track rail is suitable for use of mono rail. Moreover, tapped type track rail, which has machined female threads, are available for optimal products to fit for requirement of machine and equipment.

Stainless Steel

The metal components are manufactured from corrosion resistant stainless steel. So this series is most suitable for use in clean rooms and also for applications where the use of lubricants and rust preventive oil should be avoided or kept to a minimum.

Ball retained type

The slide unit incorporates ball retaining bands, which prevent steel balls from dropping when the slide unit is separated from the track rail. So handling is easy.

Variety specification for special environment

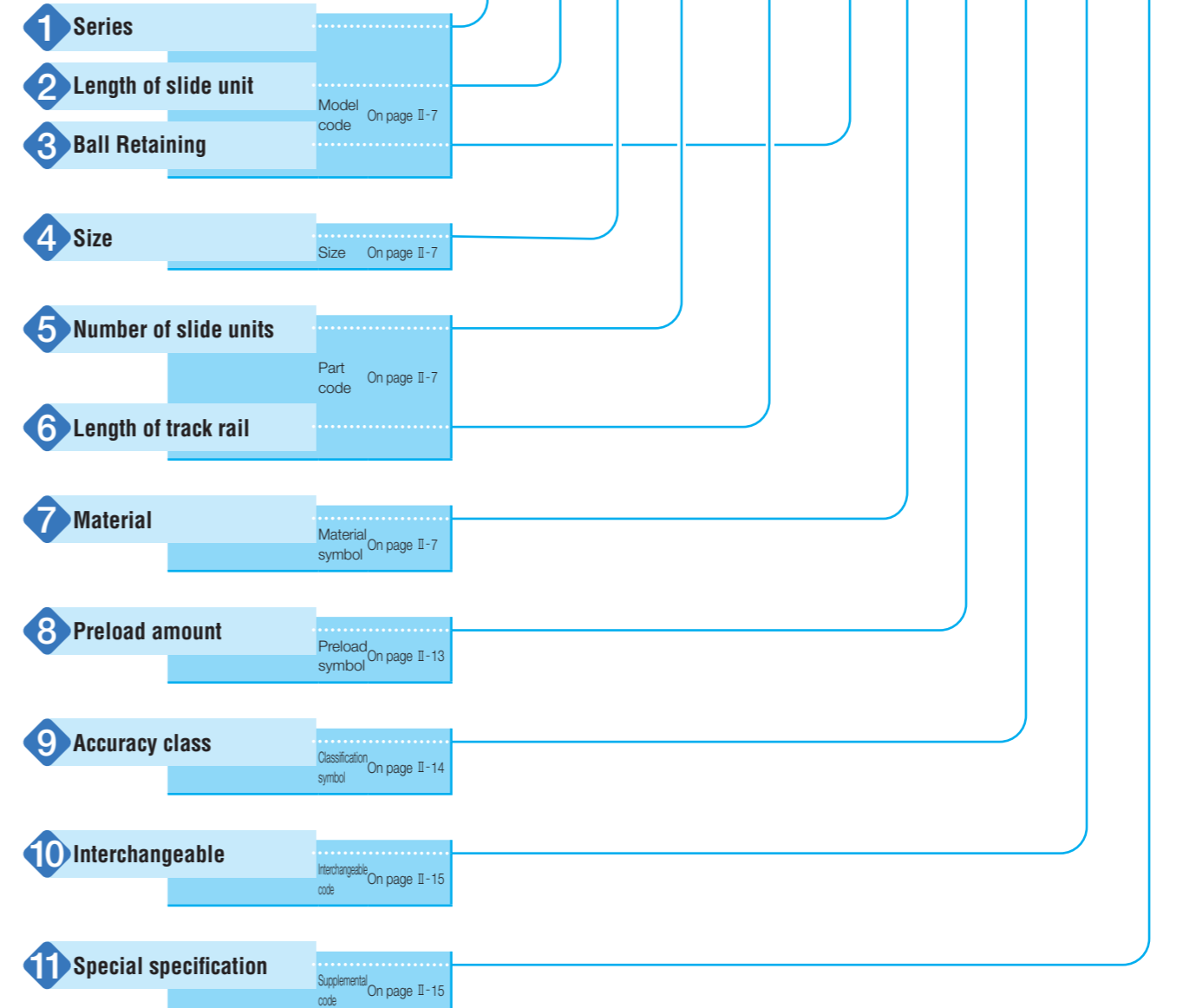
Special Environment C-Lube Linear Way ML is serialized. High speed and low noise specification with silicon nitrified ceramic ball.

Identification number and specification

The specifications of ML(F) series and LWL(F) series are indicated by the identification number, consisting of a model code, a size, a part code, a preload symbol, a classification symbol and any supplemental codes.

Interchangeable specification	1	2	4	5	6	3	7	8	9	10	11
Slide unit only	ML	C	12	C1				T ₁	P	S1	/U
Track rail only ⁽¹⁾	LWL		12		R200	B			P	S1	
Assembled set	ML	C	12	C1	R200			T ₁	P	S1	/U

Non interchangeable specification	1	2	4	5	6	3	7	8	9	10	11
Assembled set	ML	C	12	C1	R200	B		T ₁	P		/U



Note⁽¹⁾: For the model code of track rail of interchangeable specification, indicate "LWL...B" or "LWLF...B" regardless of the slide unit type to be combined.

ML · LWL

Identification number and specification —Series · Length of slide unit · Ball Retaining · Size—

1 Series

C-Lube Linear Way L (ML(F) Series) Standard type : ML
Wide type : MLF

Linear Way L⁽¹⁾ (LWL(F) Series) Standard type : LWL
Wide type : LWLF

Applicable size and shape of slide unit are shown in Table 2.1 and 2.2.
The specification of C-Lube Linear Way ML is indicated by the identification number, consisting of a model code, a size, a part code, a preload symbol, a classification symbol and any supplemental codes. For details of each specification, see page 78.

Note⁽¹⁾ : For the model code of a single track rail of interchangeable specification, indicate "LWL...B" or "LWLF...B" regardless of the slide unit type to be combined.

2 Length of slide unit

Short : C Applicable size and shape of slide unit are shown in Table 2.1 and 2.2.
Standard : No symbol
High rigidity long : G
Extra high rigidity long : L

3 Ball Retaining

Table 1.1 Structure of ML and LWL

Series	Shape and size of track rail	Ball Retaining	
ML	Standard track rail	Ball retained type : No symbol	
LWL	Standard track rail	Ball retained type : B	
	Tapped track rail	Mounting from bottom Size 2, 3	Ball non-retained type : No symbol
		Mounting from lateral Size 5, 7, 9	Ball retained type : N
Non-mounting hole type track rail	Size 1	Ball non-retained type : Y	

Table 1.1 Structure of MLF and LWLF

Series	Shape of track rail	Ball Retaining	
MLF	Standard track rail	Ball retained type : No symbol	
LWLF	Standard track rail	Size 4, 6	Ball non-retained type : No symbol
		Size 10 to 42	Ball retained type : B
	Tapped track rail	Size 6	Ball non-retained type : N
		Size 10 to 18	Ball retained type

Applicable size and shape of slide unit are shown in Table 2.1 and 2.2.

4 Size

Standard type 1, 2, 3, 5, 7, 9, 12, 15, 20, 25 Applicable size and shape of slide unit are shown in Table 2.1 and 2.2.
Wide type 4, 6, 10, 14, 18, 24, 30, 42

5 Number of slide unit : C○

For an assembled set, indicate the number of slide units assembled on one track rail. For a slide unit, only "C1" can be indicated.

6 Length of track rail : R○




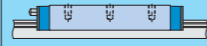
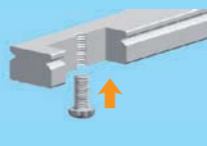

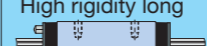

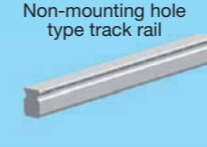
Indicate the length of track rail in mm. For standard and maximum lengths, see "Track rail length" in Table 3.1, Table 3.2 and Table 3.3.


7 Material

Stainless steel : No symbol Applicable size and shape of slide unit are shown in Table 2.1 and 2.2.
High carbon steel : CS

—Number of slide unit · Length of track rail · Material—

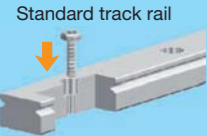
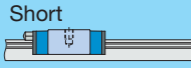
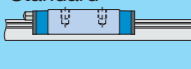
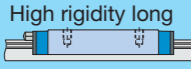

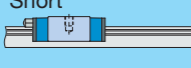

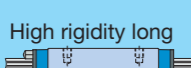
Table 2.1 Models and sizes of ML(F) and LWL(F) series

Shape of track rail	Material	Length of slide unit	Ball Retaining	Series	Size										
					1	2	3	5	7	9	12	15	20	25	
Standard track rail 	Stainless steel made	Short 	Ball retained type	MLC	-	-	-	○	○	○	○	○	○	○	○
				LWLC...B	-	-	-	○	○	○	○	○	○	○	
				ML	-	-	-	○	○	○	○	○	○	○	
	High carbon steel made	Standard 		LWL...B	-	-	-	○	○	○	○	○	○	○	
				MLG	-	-	-	-	○	○	○	○	○	○	
				LWLG...B	-	-	-	-	○	○	○	○	○	○	
High carbon steel made	Extra high rigidity long 	MLL	-	-	-	-	-	○	○	○	-	-			
		LWL...BCS	-	-	-	-	-	○	○	○	○	-			
Tapped track rail 	Stainless steel made	Short 	Ball non-retained type	LWLC	-	-	○	-	-	-	-	-	-		
			Ball retained type	LWLC...N	-	-	-	○	○	○	-	-	-		
			Ball non-retained type	LWL	-	○	○	-	-	-	-	-	-		
Ball retained type	LWL...N	-		-	-	○	○	○	-	-	-				
High rigidity long 	Ball retained type	LWLG...N	-	-	-	-	○	○	-	-	-				
		Tapped track rail (Lateral) 	Ball non-retained type	LWL...Y	○	-	-	-	-	-	-	-	-		
Non-mounting hole type track rail 	Ball non-retained type			LWL	○	-	-	-	-	-	-	-	-		

Remark : The mark  indicates that interchangeable specification is available.

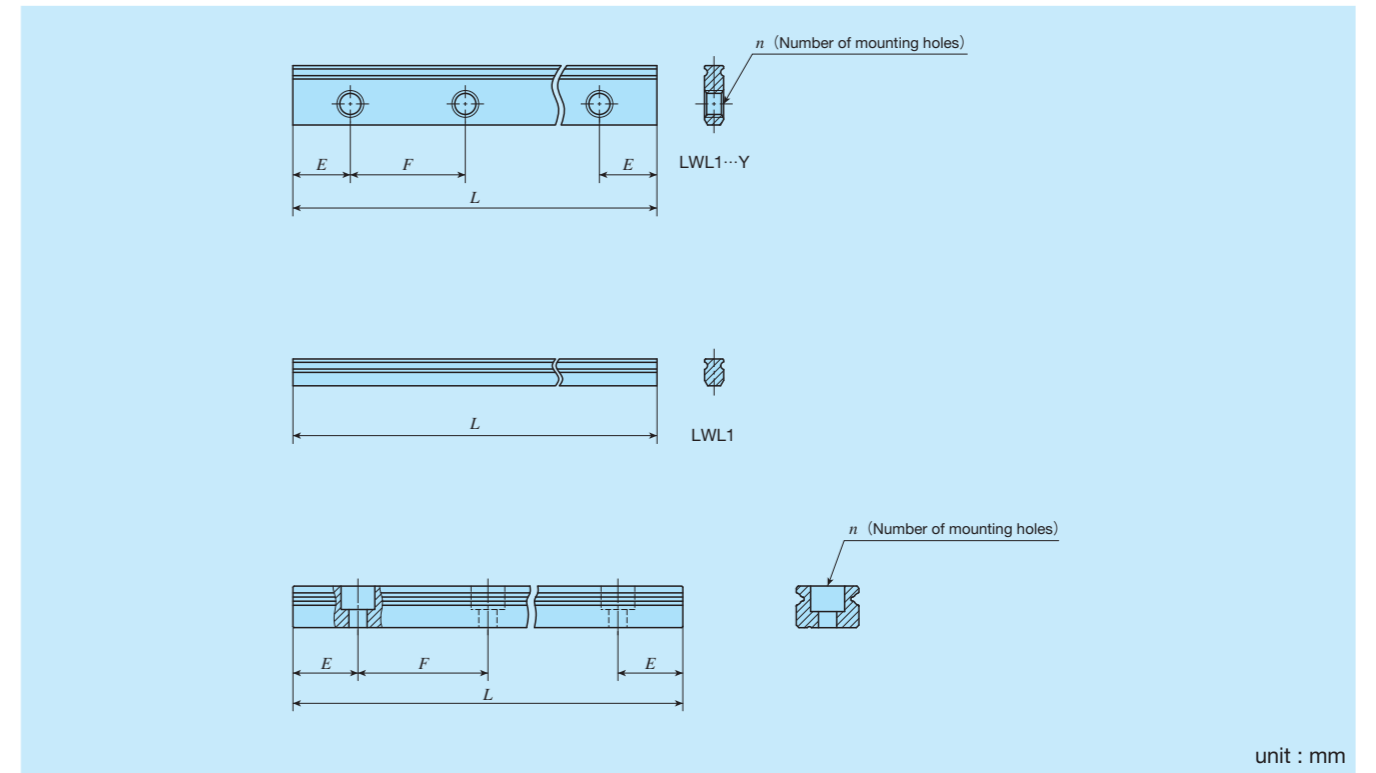
ML · LWL

Table 2.2 Models and sizes of wide type

Shape of track rail	Material	Length of slide unit	Ball Retaining	Series	Size								
					4	6	10	14	18	24	30	42	
Standard track rail 	Stainless steel made	Short 	Ball retained type	MLFC	—	—	○	○	○	○	○	○	
			Ball non-retained type	LWLFC...B	—	—	○	○	○	○	○	○	
		Standard 	Ball retained type	MLF	—	—	○	○	○	○	○	○	
			Ball non-retained type	LWLF...B	○	○	—	—	—	—	—	—	
		High rigidity long 	Ball retained type	MLFG	—	—	—	○	○	○	○	○	
			Ball non-retained type	LWLFG...B	—	—	—	○	○	○	○	○	
	High carbon steel made	Standard 	Ball retained type	LWLF...BCS	—	—	—	—	○	○	○	○	
		Stainless steel made	Short 	Ball retained type	LWLFC...N	—	—	○	○	○	—	—	—
				Ball non-retained type		—	○	—	—	—	—	—	
Standard 	Ball retained type		LWLF...N	—	—	○	○	○	—	—	—		
	Ball non-retained type	—		○	—	—	—	—	—				
High rigidity long 	Ball retained type	LWLFG...N	—	—	—	○	○	—	—	—			

Remark : The mark  indicates that interchangeable specification products are available.

Table 3.1 Standard and maximum lengths of stainless steel track rails (Standard type)

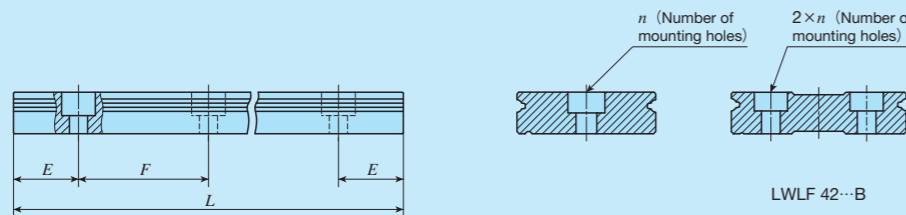


unit : mm

Item	Model number	LWL1...Y	LWL1	LWL2	LWL3	ML 5 LWL5...B	ML 7 LWL7...B
Standard length $L(n)$		18 (3)	18 (—)	32 (4)	30 (3)	60 (4)	60 (4)
		30 (5)	30 (—)	40 (5)	40 (4)	90 (6)	90 (6)
		42 (7)	42 (—)	56 (7)	60 (6)	105 (7)	120 (8)
				80 (10)	80 (8)	120 (8)	150 (10)
Pitch of mounting holes F		6	—	8	10	15	15
Standard range of $E^{(1)}$	incl.	2.5	—	2.5	3	4	4.5
	under	5.5	—	6.5	8	11.5	12
Maximum length ⁽²⁾		102	102	104 (200)	150 (300)	210 (510)	300 (990)
Maximum number of butt-jointing track rails ⁽³⁾		—	—	—	—	5	7
Maximum length of butt-jointing track rails ⁽³⁾		—	—	—	—	915	1 905
Item	Model number	ML 9 LWL9...B	ML 12 LWL12...B	ML 15 LWL15...B	ML 20 LWL20...B	ML 25 LWL25...B	
Standard length $L(n)$		60 (3)	100 (4)	160 (4)	180 (3)	240 (4)	
		80 (4)	150 (6)	240 (6)	240 (4)	300 (5)	
		120 (6)	200 (8)	320 (8)	360 (6)	360 (6)	
		160 (8)	275 (11)	440 (11)	480 (8)	480 (8)	
		220 (11)	350 (14)	560 (14)	660 (11)	660 (11)	
	280 (14)	475 (19)	680 (17)	840 (14)	900 (15)		
Pitch of mounting holes F		20	25	40	60	60	
Standard range of $E^{(1)}$	incl.	4.5	5	5.5	8	9	
	under	14.5	17.5	25.5	38	39	
Maximum length ⁽²⁾		860 (1 200)	1 000 (1 450)	1 000 (1 480)	960 (1 800)	960 (1 800)	
Maximum number of butt-jointing track rails ⁽³⁾		2	2	2	2	2	
Maximum length of butt-jointing track rails ⁽³⁾		1 660	1 925	1 880	1 740	1 740	

Notes⁽¹⁾ : Not applied to optional specification "track rail stopper pins" (supplemental code "/S").
⁽²⁾ : The track rails can be manufactured up to the maximum length shown in parentheses. If required, please consult **IKO**. Not applicable for tapped track rail specification.
⁽³⁾ : Not applicable to interchangeable aul/or tapped track rail specification.
Remarks 1 : The above table shows representative model numbers but is applicable to all models of the same size.
2 : For the model code of a single track rail of interchangeable specification, indicate "LWL...B" regardless of the slide unit type to be combined.

Table 3.2 Standard and maximum lengths of stainless steel track rails (Wide rail type)



unit : mm

Item	Model number	LWLF4	LWLF6	MLF 10 LWLF10...B	MLF 14 LWLF14...B
Standard length $L(n)$		40 (4)	60 (4)	60 (3)	90 (3)
		60 (6)	90 (6)	80 (4)	120 (4)
		70 (7)	105 (7)	120 (6)	150 (5)
		80 (8)	120 (8)	160 (8)	180 (6)
		100 (10)	150 (10)	220 (11)	240 (8)
Pitch of mounting holes F		10	15	20	30
E		5	7.5	10	15
Standard range of $E^{(1)}$	incl.	3.5	4.5	4.5	5.5
	under	8.5	12	14.5	20.5
Maximum length ⁽²⁾		180 (300)	240 (300)	300 (500)	300 (990)
Maximum number of butt-jointing track rails ⁽³⁾		—	—	7	8
Maximum length of butt-jointing track rails ⁽³⁾		—	—	1 840	1 950
Item	Model number	MLF 18 LWLF18...B	MLF 24 LWLF24...B	MLF 30 LWLF30...B	MLF 42 LWLF42...B
Standard length $L(n)$		90 (3)	120 (3)	160 (4)	160 (4)
		120 (4)	160 (4)	240 (6)	240 (6)
		150 (5)	240 (6)	320 (8)	320 (8)
		180 (6)	320 (8)	440 (11)	440 (11)
		240 (8)	400 (10)	560 (14)	560 (14)
	300 (10)	480 (12)	680 (17)	680 (17)	
Pitch of mounting holes F		30	40	40	40
E		15	20	20	20
Standard range of $E^{(1)}$	incl.	5.5	6.5	6.5	6.5
	under	20.5	26.5	26.5	26.5
Maximum length ⁽²⁾		690 (1 860)	680 (1 960)	680 (2 000)	680 (2 000)
Maximum number of butt-jointing track rails ⁽³⁾		3	3	3	3
Maximum length of butt-jointing track rails ⁽³⁾		1 920	1 840	1 840	1 840

Notes⁽¹⁾ : Not applied to optional specification "track rail stopper pins" (supplemental code "/S").

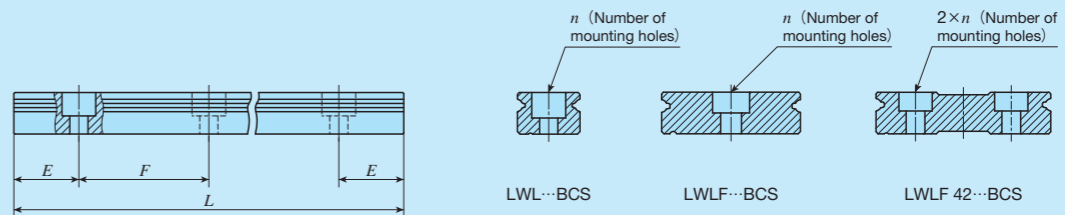
⁽²⁾ : The track rails can be manufactured up to the maximum length shown in parentheses. If required, please consult **IKO**. Not applicable for tapped track rail specification.

⁽³⁾ : Not applicable to interchangeable aul/or tapped track rail specification.

Remarks 1 : The above table shows representative model numbers but is applicable to all models of the same size.

2 : For the model code of track rail of interchangeable specification, indicate "LWL...B" regardless of the slide unit type to be combined.

Table 3.3 Standard and maximum lengths of high carbon steel track rails (Standard type, Wide rail type)



unit : mm

Item	Model number	LWL 9...BCS	LWL12...BCS	LWL15...BCS	LWL20...BCS
Standard length $L(n)$		80 (4)	100 (4)	160 (4)	180 (3)
		160 (8)	200 (8)	320 (8)	240 (4)
		220 (11)	275 (11)	440 (11)	360 (6)
		280 (14)	350 (14)	560 (14)	480 (8)
		380 (19)	475 (19)	680 (17)	660 (11)
		500 (25)	600 (24)	800 (20)	900 (15)
		600 (30)	700 (28)	920 (23)	1 020 (17)
Pitch of mounting holes F		20	25	40	60
E		10	12.5	20	30
Standard range of $E^{(1)}$	incl.	4.5	5	5.5	8
	under	14.5	17.5	25.5	38
Maximum length		1 000	1 500	1 520	1 560
Item	Model number	LWLF18...BCS	LWLF24...BCS	LWLF30...BCS	LWLF42...BCS
Standard length $L(n)$		90 (3)	120 (3)	160 (4)	160 (4)
		180 (6)	240 (6)	320 (8)	320 (8)
		240 (8)	320 (8)	440 (11)	440 (11)
		300 (10)	400 (10)	560 (14)	560 (14)
		420 (14)	600 (15)	680 (17)	680 (17)
		510 (17)	720 (18)	800 (20)	800 (20)
	600 (20)	800 (20)	920 (23)	920 (23)	
Pitch of mounting holes F		30	40	40	40
E		15	20	20	20
Standard range of $E^{(1)}$	incl.	5.5	6.5	6.5	6.5
	under	20.5	26.5	26.5	26.5
Maximum length		1 500	1 520	1 600	1 600

Note⁽¹⁾ : Not applied to optional specification "track rail stopper pins" (supplemental code "/S").

Remark : The above table shows representative model numbers but is applicable to all models of the same size.

8 Preload amount	Clearance	: T ₀	Specify this items for an assembled set or an interchangeable single slide unit. Applicable preload and size are shown in Table 4. For detail of preload amount, see Table 5.1 and 5.2.
	Standard	: No symbol	
	Light preload	: T ₁	

Table 4 Preload amount

Preload type	Item	Symbol	Preload amount N	Application
Clearance		T ₀	0 ⁽¹⁾	· Very smooth motion
Standard		(No symbol)	0 ⁽²⁾	· Smooth and precise motion
Light preload		T ₁	0.02 C ₀	· Minimum vibration · Load is evenly balanced · Smooth and precise motion

Notes ⁽¹⁾ : Zero or minimal amount of clearance.
⁽²⁾ : Zero or minimal amount of preload.
 Remark : C₀ means the basic static load rating.

Table 5.1 Applicable preload (standard type)

Size	Preload and symbol		
	Clearance (T ₀)	Standard (No symbol)	Light preload (T ₁)
1	○	—	—
2	○	—	—
3	○	—	—
5	○	○	—
7	○ ⁽¹⁾	○	○ ⁽¹⁾
9	○ ⁽¹⁾	○	○ ⁽¹⁾
12	○ ⁽¹⁾	○	○ ⁽¹⁾
15	○ ⁽¹⁾	○	○ ⁽¹⁾
20	○	○	○
25	○	○	○

Note ⁽¹⁾ : Not applicable to /HB (ceramic ball) specification.
 Remark : The mark indicates that interchangeable specification products are available.

Table 5.2 Applicable preload (Wide type)

Size	Preload and symbol		
	Clearance (T ₀)	Standard (No symbol)	Light preload (T ₁)
4	○	—	—
6	○	—	—
10	○	○	—
14	○	○	○
18	○	○	○
24	○	○	○
30	○	○	○
42	○	○	○

Remark : The mark indicates that interchangeable specification products are available.

9 Accuracy class	High class	: H	In interchangeable specification, please combine same accuracy codes on both slide unit and track rail. For detail of accuracy, see Table 6.1 and 6.2. Accuracy class is not applicable to size 1.
	Precision class	: P	

Table 6.1 Accuracy for LWL 1

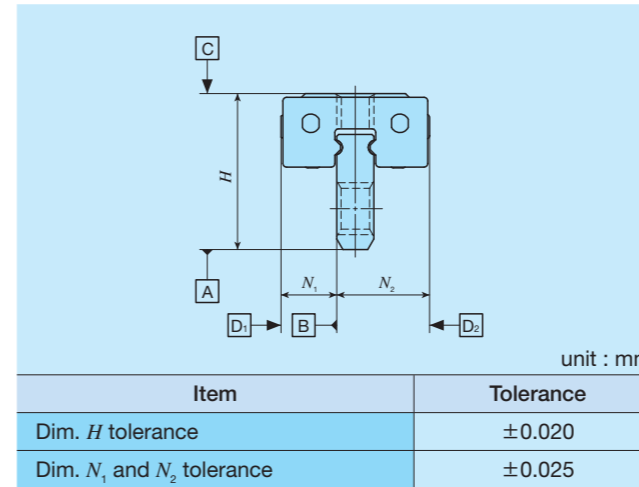
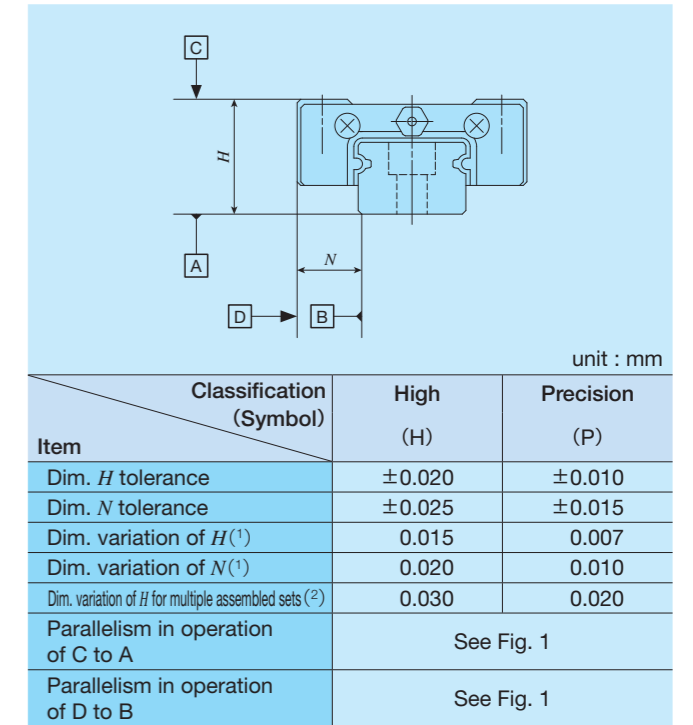


Table 6.2 Accuracy for size 2 or larger



Notes ⁽¹⁾ : It means the size variation between slide units mounted on the same track rail.
⁽²⁾ : It applies to the interchangeable specification.

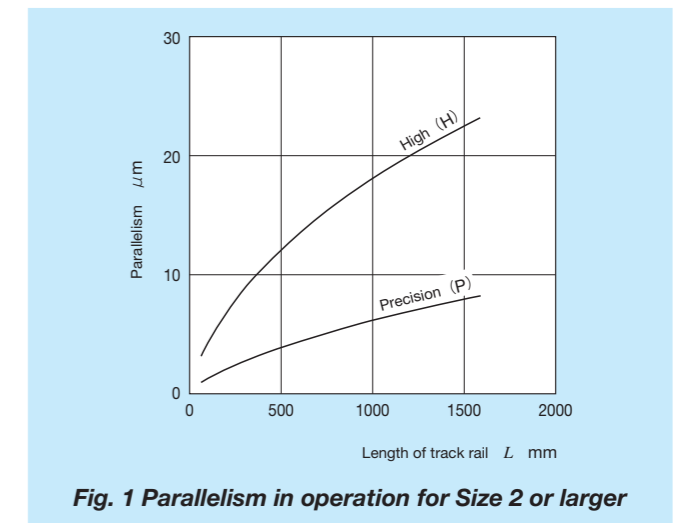
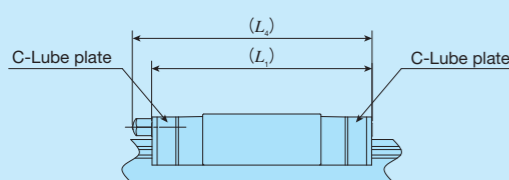


Table 9 Slide unit with C-Lube plates (Supplemental code /Q)



unit : mm

Model number	L ₁	L ₄	Model number	L ₁	L ₄
LWLC 5···B	22	—	LWLFC 10···B	26.5	—
LWL 5···B	25	—	LWLF 10···B	30.5	—
LWLC 7···B	27	—	LWLFC 14···B	30.5	—
LWL 7···B	31.5	—	LWLF 14···B	39.5	—
LWLG 7···B	39	—	LWLFG 14···B	50	—
LWLC 9···B	30	—	LWLFC 18···B	34.5	—
LWL 9···B	39	—	LWLF 18···B	46.5	—
LWLG 9···B	49	—	LWLFG 18···B	58.5	—
LWLC 12···B	33	—	LWLFC 24···B	38.5	—
LWL 12···B	42	—	LWLF 24···B	52	—
LWLG 12···B	52	—	LWLFG 24···B	67	—
LWLC 15···B	42	47	LWLFC 30···B	45.5	50
LWL 15···B	52	57	LWLF 30···B	59.5	64
LWLG 15···B	67	72	LWLFG 30···B	78.5	83
LWLC 20···B	48	53	LWLFC 42···B	51.5	56
LWL 20···B	60	65	LWLF 42···B	65	70
LWLG 20···B	78	83	LWLFG 42···B	84.5	89
LWLC 25···B	63.5	74			
LWL 25···B	87.5	98			
LWLG 25···B	107.5	117			

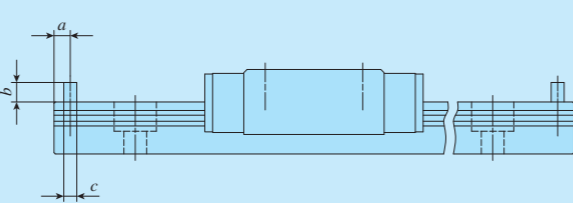
Remarks 1 : The values are the slide unit lengths with C-Lube plates at both ends.
 2 : The above table shows representative model numbers but is applicable to all models.

Table 10 Rated load and moment for C-Lube Linear Way Ceramic Ball Specification (Supplemental code /HB)

Model number	C N	C ₀ N	T ₀ N · m	T _x ⁽¹⁾ N · m	T _y ⁽¹⁾ N · m
MLC 7···/HB	937	965	3.5	1.6 12.6	1.3 10.6
ML 7···/HB	1 330	1 610	5.9	4.0 23.9	3.3 20.1
MLG 7···/HB	1 690	2 250	8.2	7.5 43.1	6.3 36.2
MLC 9···/HB	1 180	1 260	5.9	2.4 18.2	2.1 15.3
ML 9···/HB	1 810	2 340	10.9	7.7 43.4	6.5 36.4
MLG 9···/HB	2 370	3 420	15.9	15.9 83.6	13.4 70.1
MLL 9···/HB	2 870	4 500	20.9	27.1 134	22.7 112
MLC 12···/HB	2 210	2 030	12.6	4.5 35.5	3.8 29.8
ML 12···/HB	3 330	3 650	22.6	13.1 79.2	11.0 66.4
MLG 12···/HB	4 310	5 270	32.7	26.0 143	21.9 120
MLL 12···/HB	5 820	8 110	50.3	59.3 288	49.8 242
MLC 15···/HB	3 490	3 310	25.5	9.9 71.8	8.3 60.3
ML 15···/HB	4 980	5 520	42.5	25.3 146	21.2 122
MLG 15···/HB	6 620	8 280	63.7	54.3 288	45.5 241
MLL 15···/HB	8 370	11 600	89.2	104 497	86.9 417

Note⁽¹⁾ : The upper values in the T_x and T_y columns apply to one slide unit, and the lower values apply to two slide units in close contact.

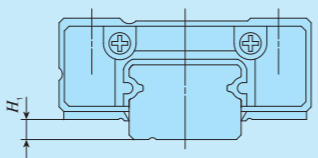
Table 11 Track rail with stopper pins (Supplemental code /S)



unit : mm

Size	a	b	c
5	—	2	1.6
7	—	2.5	—
9	—	3	2
—	10	2	1.6
12	—	—	—
—	14	3	—
15	—	4	—
—	18	3	—
20	—	5	—
—	24	3	—
25	—	5	—
—	30	4	—
—	42	5	—

Table 12 H₁ dimension of slide unit with under seals (Supplemental code /U)



unit : mm

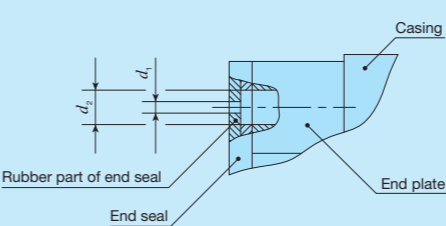
Size	H ₁
9	—
12	—
15	—
—	18
20	—
—	24
25	—
—	30
—	42

Note⁽¹⁾ : This dimension is the same as that without under seals.

Lubrication

In ML(F) and LWL(F) series, lithium soap base grease (MULTEMP PS No.2, KYODO YUSHI) is pre-packed. Addition to ML(F) series, self lubrication system C-Lube is assembled and it extends to re-lubrication interval longer. In ML(F) and LWL(F) series, grease nipple and oil holes are prepared as shown in Table 13 and Table 14. Supply nozzles fit to each shapes of grease nipple and miniature greasers fit to oil holes are also available. For these parts for lubrication, refer to Table 14 and Table 15.1 on page III-22, and Table 16 on page 23 if required. In models of size 1 to 6, put grease directly to their raceway of track rail because oil hole is not prepared.

Table 13 Oil hole



unit : mm

Size	d ₁	d ₂
5	10	0.5
7	14	0.5
9	18	0.5
12	24	0.5

Table 14 Parts for lubrication

Size	Grease nipple ⁽¹⁾	Applicable supply nozzle type	Nominal size of female threads for piping
5, 7, 9, 12	Oil hole	Miniature greaser	—
15, 20	A-M3	A-5120V A-5240V B-5120V B-5240V	—
25	B-M4	A-8120V B-8120V	M4

Note⁽¹⁾ : In grease nipple specification please see Table 15.1 on page III-22.

Dust protection

The slide units of ML(F) and LWL(F) series are provided with special rubber seals for dust protection. However, if a large amount of file contaminants are present, or if large particles of foreign matter may fall on the track rail, it is recommended to provide bellows and other protective covers by customer. Especially in models of size 1 to 6, end seals are not prepared.

Precautions for Use

① Mounting surface, reference mounting surface, and general mounting structure

To mount ML(F) and LWL(F) series, correctly fit the reference mounting surfaces B and D (D₁ or D₂) of the slide unit and track rail to the reference mounting surfaces of the table and the bed, and then fix them tightly. (See Fig.2)

In size 1, reference surfaces are available to both side of slide unit. (D₁ and D₂)

Track rail of LWL1...Y can be mounted in lateral direction.

Two kinds of mounting methods can be chosen. (See Fig.3.1 and 3.2)

The reference mounting surfaces B and D (D₁ and D₂) and the mounting surfaces A and C of ML(F) and LWL(F) series are accurately finished by grinding. Stable and high accuracy linear motion can be obtained by finishing the mating mounting surfaces of machines or equipment with high accuracy and correctly mounting the guide on these surfaces. Reference mounting surfaces of slide unit and track rail are shown in Fig. 5.2.

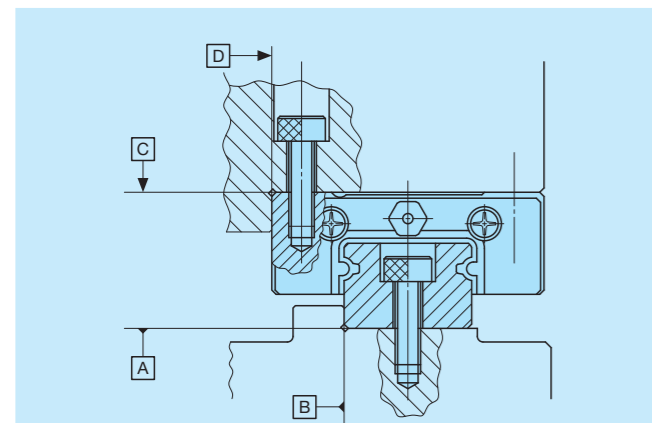


Fig. 2 Reference mounting surface and general mounting structure

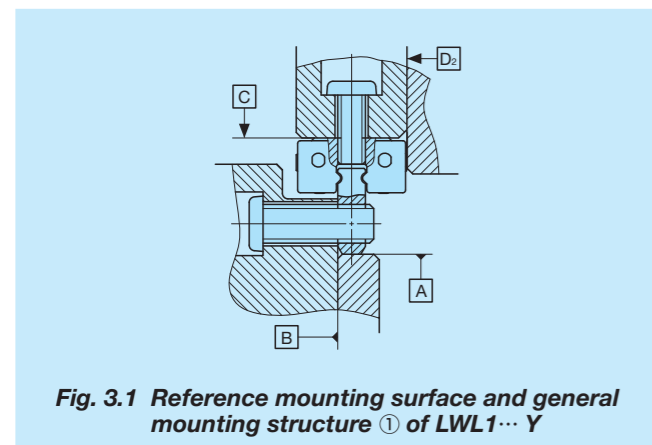


Fig. 3.1 Reference mounting surface and general mounting structure ① of LWL1...Y

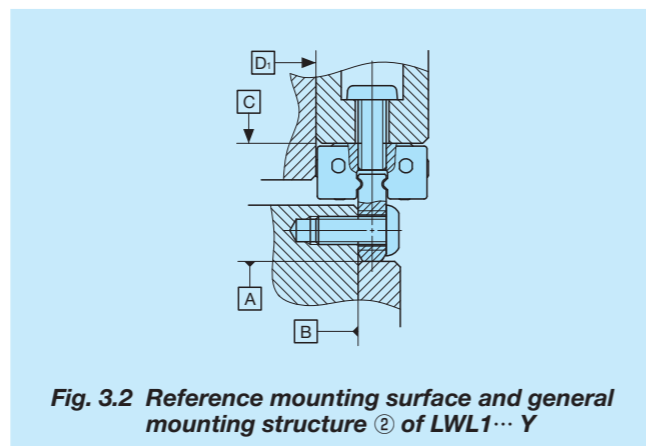


Fig. 3.2 Reference mounting surface and general mounting structure ② of LWL1...Y

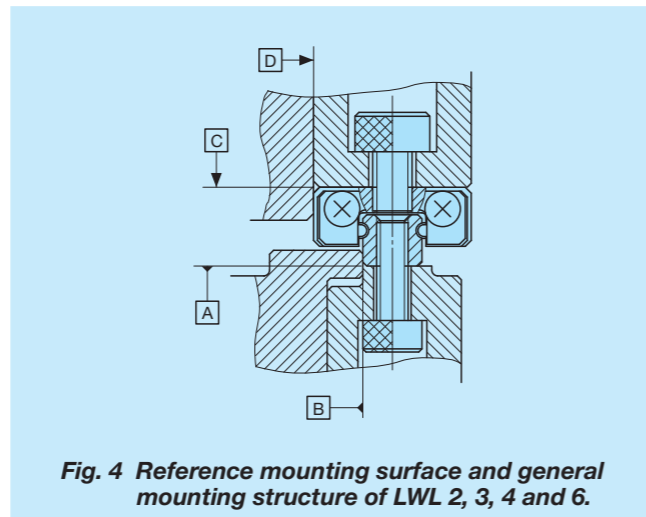


Fig. 4 Reference mounting surface and general mounting structure of LWL 2, 3, 4 and 6.

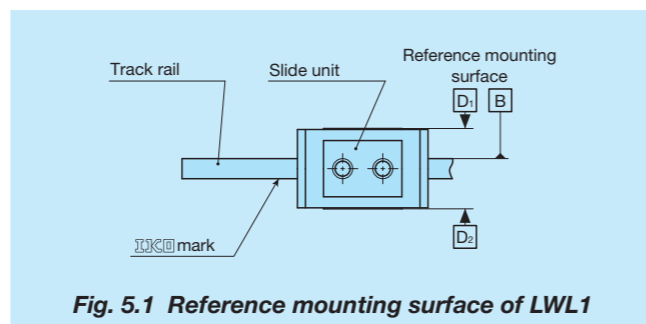


Fig. 5.1 Reference mounting surface of LWL1

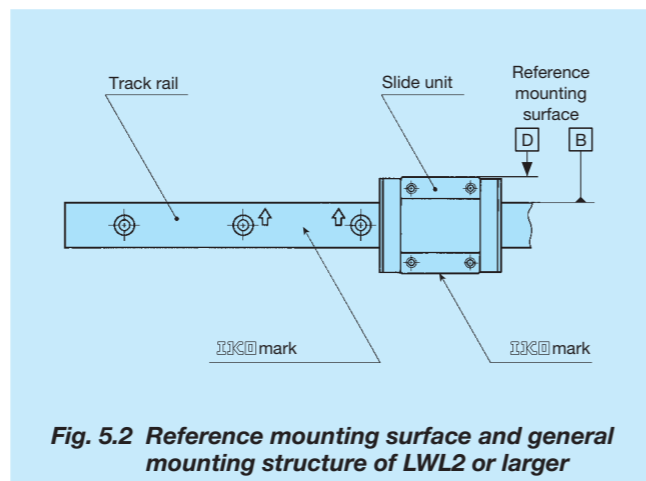


Fig. 5.2 Reference mounting surface and general mounting structure of LWL2 or larger

② Female threads for mounting the slide unit and track rail are through holes

In the slide unit, mounting holes are through the slide unit. For mounting slide unit, insertion depth shown in dimension table must be kept. Too deep insertion depth causes interference to the track rail and it leads trouble for running accuracy, frictional resistance and lifetime.

In the size of 1, crossed recessed head screw for precision equipment (head diameter 1.8mm or smaller) is recommended.

③ The mounting bolts for track rail are not appended

In the size of 2 and 3 of lateral mounting type, track rail mounting bolts are not appended. Prepare mounting bolts which insertion depth must be less than H_4 in dimension when mounting.

④ Corner radius and shoulder height of reference mounting surfaces

It is recommended to make relieved fillet at the corner of mating reference mounting surfaces as shown in Fig.6. Table 16 shows recommended shoulder heights corner radii of the mating surfaces.

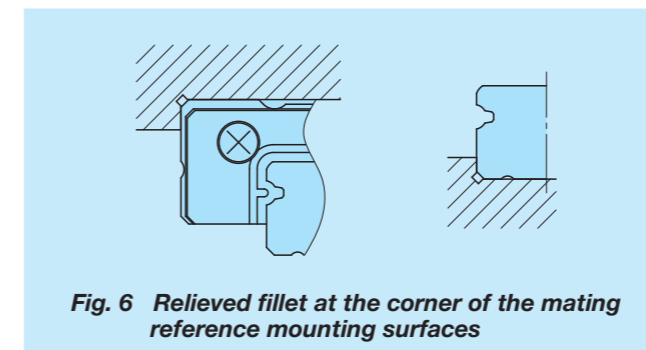


Fig. 6 Relieved fillet at the corner of the mating reference mounting surfaces

⑤ Tightening torque of mounting bolts

The standard torque values for ML(F) and LWL(F) series mounting bolts are shown in Table 15. When machines or equipment are subjected to serve vibration, shock, large fluctuating load, or moment load, the bolts should be tightened with a torque 1.2 to 1.5 times higher than the standard torque values shown. When the mating member material is cast iron or aluminum, tightening torque should be lowered in accordance with strength characteristics of the material.

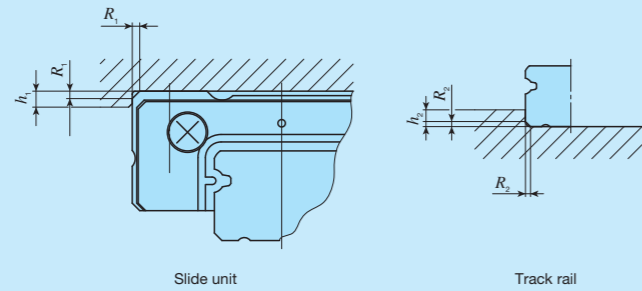
Table 15 Tightening torque of mounting bolts

Bolt size	Tightening torque N·m	
	Stainless steel bolt	Carbon steel bolt
M1 ×0.25	0.04	—
M1.4×0.3	0.10	—
M1.6×0.35	0.15	—
M2 ×0.4	0.31	—
M2.5×0.45	0.62	—
M3 ×0.5	1.1	1.2
M4 ×0.7	2.5	2.8
M5 ×0.8	5.0	5.6
M6 ×1	8.5	—

Remarks 1 : The values are calculated by bolt strength division 8.8. as a basis.

2 : In the size of 1, it is recommended to be 70 to 80% of the values in the table.

Table 16 Shoulder heights and corner of the mating reference mounting



unit : mm

Model number		Slide unit		Track rail	
		Shoulder height h_1	Comer radius R_1 (max.)	Shoulder height ⁽¹⁾ h_2	Comer radius R_2 (max.)
-	LWL 1··Y	1.3	-	2	-
-	LWL 1			-	
-	LWL 2			0.5	
-	LWL 3	1.2	0.15	0.8	0.1
ML 5	LWL 5··B	2	0.3	0.8	0.2
ML 7	LWL 7··B	2.5	0.2	1.2	0.2
ML 9	LWL 9··B	3	0.2	1.5	0.2
-	LWL 9··BCS		0.4		
ML 12	LWL 12··B	4	0.2	2.5	0.2
-	LWL 12··BCS		0.4		
ML 15	LWL 15··B	4.5	0.2	3	0.2
-	LWL 15··BCS		0.4		
ML 20	LWL 20··B	5	0.2	4	0.2
-	LWL 20··BCS		0.4		
ML 25	LWL 25··B	6.5	0.7	4	0.7
-	LWLF 4	1.5	0.1	0.8	0.1
-	LWLF 6	2	0.1	0.8	0.1
MLF 10	LWLF 10··B	2	0.3	1.2	0.2
MLF 14	LWLF 14··B	2.5	0.2	1.2	0.2
MLF 18	LWLF 18··B	3	0.2	2.5	0.2
-	LWLF 18··BCS		0.4		
MLF 24	LWLF 24··B	4	0.2	2.5	0.2
-	LWLF 24··BCS		0.4		
MLF 30	LWLF 30··B	4.5	0.2	2.5	0.2
-	LWLF 30··BCS		0.4		
MLF 42	LWLF 42··B	5	0.2	3	0.2
-	LWLF 42··BCS		0.4		

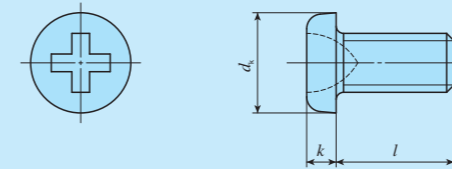
Note⁽¹⁾ : For models with under seals (U), it is use h2 values 1mm smaller than the values in the table. However, for "with under seals" of the size 9 models, 0.8mm is recommended.

Remark : The above table shows representative model numbers but is applicable to all models.

Mounting bolt

Mounting bolts for the slide unit and the track rail of tapped rail specification are available as shown in Table 17 and 18. Consult **IKO** for further information.

Table 17 Cross recessed head screw for precision equipment



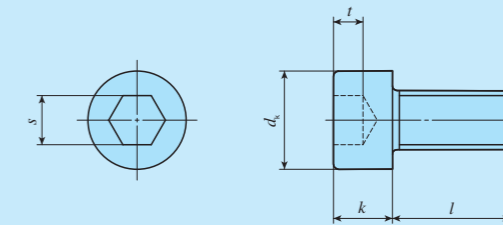
unit : mm

Bolt size (d)	Pitch of screw P	d_k	k	l
M1	0.25	1.8	0.45	3, 4, 5
M1.4 ⁽¹⁾	0.3	2.5	0.8	2.5, 3, 4
M1.6 ⁽¹⁾	0.35	2.8	0.85	4, 5, 6
M2 ⁽¹⁾	0.4	3.5	1	3, 4, 5

Note⁽¹⁾ : Based on "Cross recessed head screw (#0) for precision equipment" of Japanese Standard (JCS)10-70.

Remark : Dimensions of the screws shown in the above table are different from those of the appended mounting bolts for track rail.

Table 18 Hexagon socket head bolt

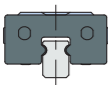
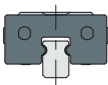


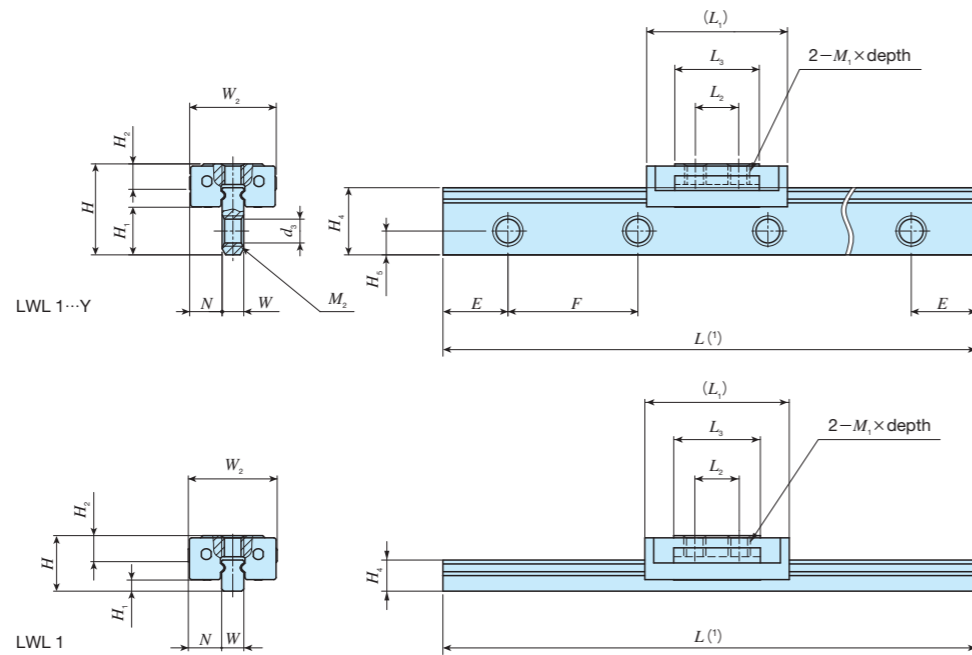
unit : mm

Bolt size (d)	Pitch of screw P	d_k	k	s	t	l
M1.4	0.3	2.6	1.4	1.3	0.6	2.5, 3, 4
M1.6 ⁽¹⁾	0.35	3	1.6	1.5	0.7	4, 5, 6
M2 ⁽¹⁾	0.4	3.8	2	1.5	1	3, 4, 5

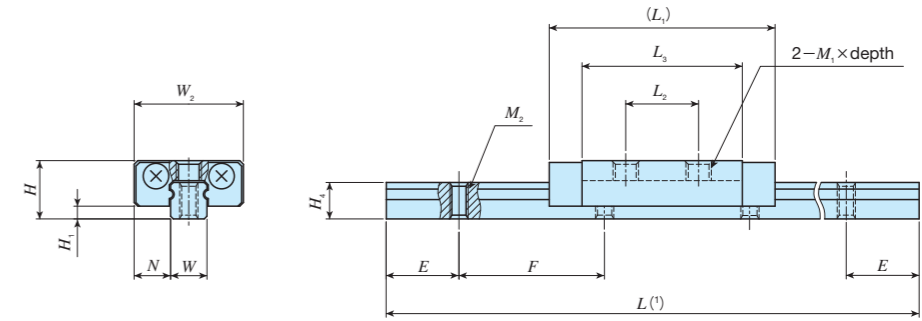
Note⁽¹⁾ : Based on JIS B 1176.

IKO C-Lube Linear Way ML

Standard type	
Shape	LWL 
	
Size	1 2 3 5 7
	9 12 15 20 25



LWL 2
LWLC 3
LWL 3



Model number	Interchangeable	Mass (Reference) g	Dimension of assembly mm	Dimension of slide unit mm										Dimension of track rail mm						Appended mounting bolt for track rail (2) mm	Basic dynamic load rating (5) N	Basic static load rating (5) N	Static moment rating (5) N·m			
				Slide unit	Track rail (per 100mm)	H	H ₁	N	W ₂	L ₁	L ₂	L ₃	M ₁ × depth	H ₂	W	H ₄	H ₅	M ₂	d ₃				E	F	Bolt size x length	C
—	LWL 1...Y	—	0.16	2.1	4.2	2.2	1.5	4	6.5	2	3.9	M1 × 0.9	1.2	1	3.1	1.1	M1.4 Through	1.1	3	6	M1 × ℓ or M1.4 × ℓ (3)	66.8	113	0.06	0.07 0.47	0.09 0.56
—	LWL 1	—	1.0	2.5	0.5	—									—	—	—	—	—	—	—					
—	LWL 2	—	0.9	2.8	3.2	0.7	2	6	12.5	4	8.8	M1.4 × 1.1	—	2	2	—	M1 Through	—	4	8	M1 × ℓ (4)	211	381	0.42	0.54 2.9	0.64 3.4
—	LWLC 3	—	1.0	5.3	4	1	2.5	8	11.5	3.5	6.7	M1.6 × 1.3	—	3	2.6	—	M1.6 Through	—	5	10	M1.6 × ℓ (4)	251	361	0.58	0.39 2.9	0.47 3.4
—	LWL 3	—	1.6						15.5	5.5	10.7	M2 × 1.3										353	587	0.94	0.98 5.9	1.2 7.0

Notes (1) : Track rail lengths are shown in Table 3.1 on page II-10.

(2) : Track rail mounting bolts are not appended.

(3) : Prepare track rail mounting bolts according to mounting structure.

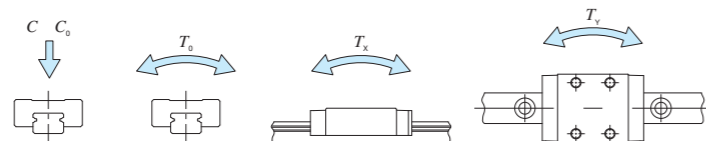
(4) : Fixing thread depth of bolt ℓ must be less than H₄.

(5) : The direction of basic dynamic load rating (C), basic static load rating (C₀) and static moment rating (T₀, T_x, T_y) are shown in the sketches below. The upper values in the T_x and T_y columns apply to one slide unit, and the lower values apply to two slide units in close contact.

Remarks 1 : Metal parts are made of stainless steel.

2 : Do not disassemble a slide unit from the track rail because steel balls are not retained. No end seal is attached.

3 : The specification of small size mounting bolts (M2 and less) are show on page II-22. Consult IKO if required.



Example of identification number for assembled set

Model code Size Part code Model code Preload amount Class symbol Supplemental code
LWL **2** **C2** **R80** **T0** **P** **/S**
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Series
LWL Standard type
LWL...Y

② Length of slide unit
C Short
No symbol Standard

③ Size
1, 2, 3

④ Number of slide unit (two units)
⑤ Length of track rail (80mm)

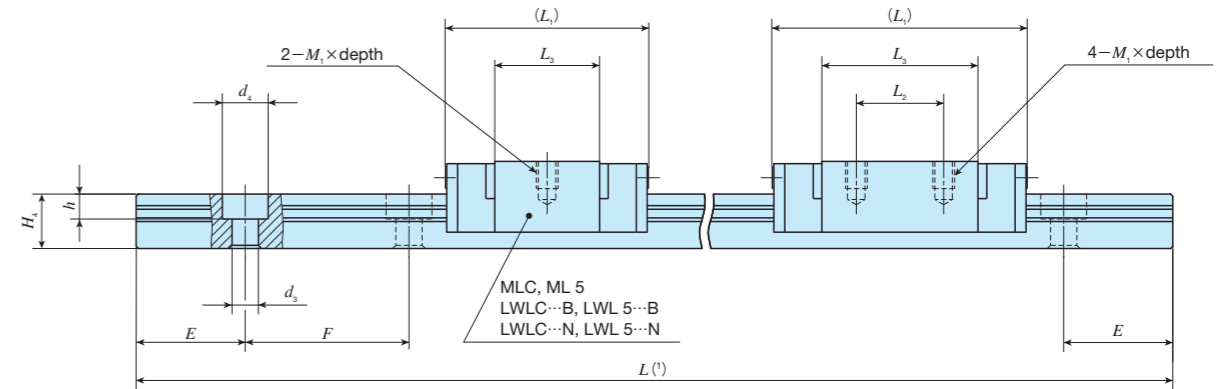
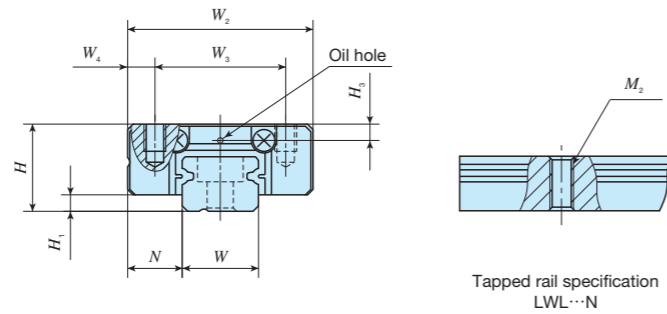
⑥ Preload amount
T0 Clearance

⑦ Accuracy class
No symbol Ordinary
H High
P Precision

⑧ Special specification
BS, D, E, I, MN, W, Y

IKO C-Lube Linear Way ML

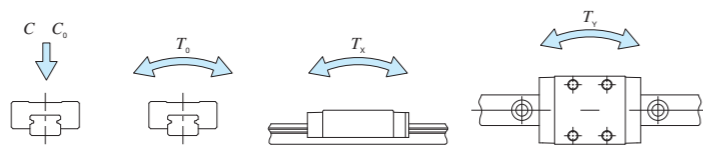
Standard type											
Shape	ML • LWL										
Size	<table border="1"> <tr> <td>1</td> <td>2</td> <td>3</td> <td>5</td> <td>7</td> </tr> <tr> <td>9</td> <td>12</td> <td>15</td> <td>20</td> <td>25</td> </tr> </table>	1	2	3	5	7	9	12	15	20	25
1	2	3	5	7							
9	12	15	20	25							



Model number	Interchangeable	Mass (Reference) g	Dimension of assembly mm		Dimension of slide unit mm										Dimension of track rail mm						Appended mounting bolt for track rail (2) mm	Basic dynamic load rating (4) C N	Basic static load rating (4) C0 N	Static moment rating (4)					
			Slide unit	Track rail (per 100mm)	H	H1	N	W2	W3	W4	L1	L2	L3	M1 x depth	H3	W	H4	M2	d3	d4				h	E	F	T0 N·m	Tx N·m	Ty N·m
MLC 5	LWLC 5...B	○	3.4	12	6	1	3.5	12	8	2	16	9.6	M2×1.5	1.2	5	3.7	-	2.4	3.6	0.8	7.5	15	Cross-recessed head cap screw for precision equipment M2×6	562	841	2.2	1.4 8.5	1.2 7.2	
-	LWLC 5...N*	-		13																			M2.5 Through						-
ML 5	LWLC 5...B	○	4.3	12	6	1	3.5	12	8	2	19	12.6	M2×1.5	1.2	5	3.7	-	2.4	3.6	0.8	7.5	15	Cross-recessed head cap screw for precision equipment M2×6	676	1 090	2.9	2.3 12.8	1.9 10.8	
-	LWLC 5...N*	-	13	M2.5 Through																			-						-
MLC 7	LWLC 7...B	○	6.7	22	8	1.5	5	17	12	2.5	19	9.6	M2×2.5	1.5	7	5	-	2.4	4.2	2.3	7.5	15	Hexagon socket head bolt M2×6	937	1 140	4.1	1.8 14.9	1.5 12.5	
-	LWLC 7...N*	-	7.1	24																			M3 Through						-
ML 7	LWLC 7...B	○	9.1	22	8	1.5	5	17	12	2.5	23.5	8	14.3	M2×2.5	1.5	7	5	-	2.4	4.2	2.3	7.5	15	Hexagon socket head bolt M2×6	1 330	1 890	6.9	4.7 28.2	3.9 23.6
-	LWLC 7...N*	-	10	24																				M3 Through					
MLG 7	LWLG 7...B	○	13	22	8	1.5	5	17	12	2.5	31	12	21.6	M2×2.5	1.5	7	5	-	2.4	4.2	2.3	7.5	15	Hexagon socket head bolt M2×6	1 690	2 650	9.7	8.8 50.7	7.4 42.5
-	LWLG 7...N*	-	14	24																				M3 Through					

Notes (1) : Track rail lengths are shown in Table 3.1 on page II-10.
 (2) : The appended track rail mounting bolts are hexagon socket head bolts of JIS B 1176 or equivalent. In stainless steel model, stainless steel made bolts are appended.
 (3) : Fixing thread depth of bolt ℓ must be less than H4
 (4) : The direction of basic dynamic load rating (C), basic static load rating (C0) and static moment rating (T0, Tx, Ty) are shown in the sketches below. The upper values in the Tx and Ty columns apply to one slide unit, and the lower values apply to two slide units in close contact.
 In MLC7, ML7, and MLG7 of ceramic ball specification ("HB"), see Table 12 on page II-17.

Remarks 1 : The specification of oil hole is shown in Table13 on page II-18.
 2 : Model numbers marked * are semi-standard items.



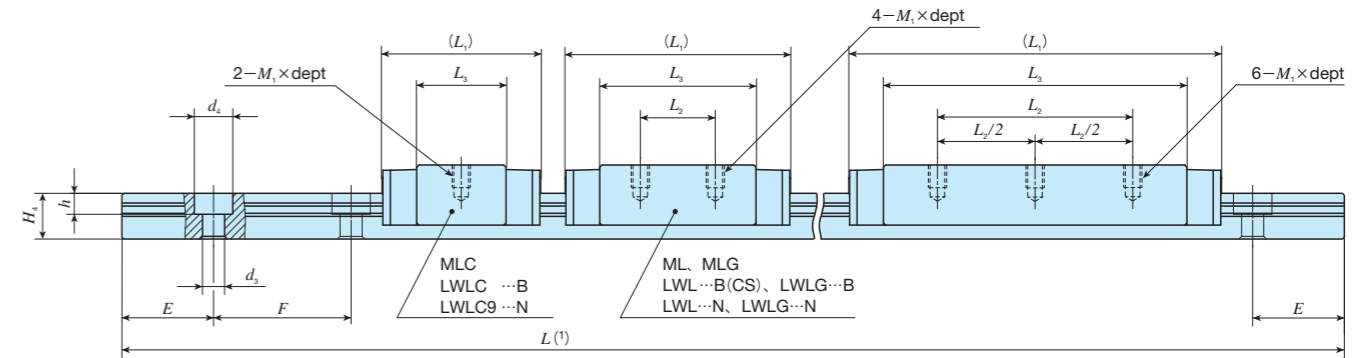
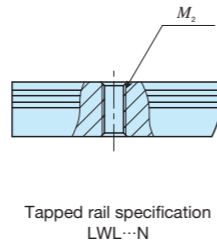
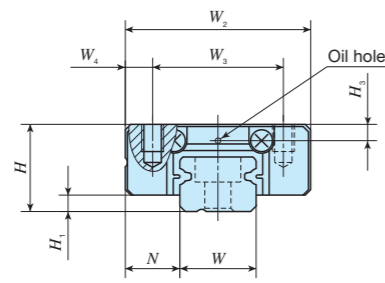
Example of identification number for assembled set

Model code	Size	Part code	Model code	Preload amount	Preload amount	Interchangeable	Supplemental code
ML	C	7	C2	R120	T1	P	S1 /S
①	②	④	⑤	⑥	⑦	⑧	⑨ ⑩

① Series ML LWLC...B LWLC...N	② Length of slide unit C Short No symbol Standard G High rigidity long	④ Size 5, 7	⑤ Number of slide unit (two units)	⑥ Length of track rail (120mm)	⑦ Preload amount T0 Clearance No symbol Standard T1 Light preload	⑧ Accuracy class H High P Precision	⑨ Interchangeable code S1 Interchangeable specification S2 Interchangeable specification No symbol Non interchangeable specification	⑩ Special specification A, BS, D, E, HB, I, LR MN, N, Q, RE, S, W, Y
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IKO C-Lube Linear Way ML

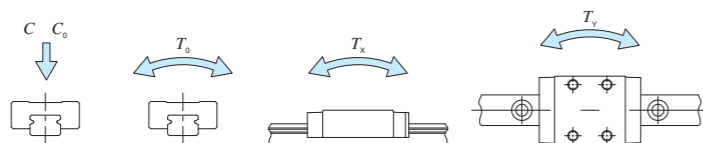
Standard type											
Shape	ML • LWL										
Size	<table border="1"> <tr> <td>1</td><td>2</td><td>3</td><td>5</td><td>7</td> </tr> <tr> <td>9</td><td>12</td><td>15</td><td>20</td><td>25</td> </tr> </table>	1	2	3	5	7	9	12	15	20	25
1	2	3	5	7							
9	12	15	20	25							



Model number	Interchangeable	Mass (Reference) g	Dimension of assembly mm			Dimension of slide unit mm							Dimension of track rail mm						Appended mounting bolt for track rail (2) mm	Basic dynamic load rating (4) C N	Basic static load rating (4) C0 N	Static moment rating (4) N·m							
			Slide unit	Track rail (per 100mm)	H	H1	N	W2	W3	W4	L1	L2	L3	M1×depth	H3	W	H4	M2				d3	d4	h	E	F	T0	Tx	Ty
MLC 9	LWLC 9...B	○	11	35	10	2	5.5	20	15	2.5	21.5	-	11.9	M3×3	2.2	9	6	-	3.5	6	3.5	10	20	M3×8	1 180	1 480	6.9	2.9	2.4
-	LWLC 9...N*	-		37																									
ML 9	LWL 9...B	○	19	35	10	2	5.5	20	15	2.5	30	10	20.8	M3×3	2.2	9	6	-	3.5	6	3.5	10	20	M3×8	1 810	2 760	12.8	9.1	7.6
-	LWL 9...BCS	○		37																									
MLG 9	LWLG 9...B	○	28	35	10	2	5.5	20	15	2.5	40.5	15	30.9	M3×3	2.2	9	6	-	3.5	6	3.5	10	20	M3×8	2 370	4 030	18.7	18.7	15.7
-	LWLG 9...N*	-		37																									
MLL 9		○	34	35	10	2	5.5	20	15	2.5	50	26	40.4	M3×3	2.2	9	6	-	3.5	6	3.5	10	20	M3×8	2 870	5 300	24.6	31.9	26.7
MLC 12	LWLC 12...B	○	22	25																									
ML 12	LWL 12...B	○	35	65	13	3	7.5	27	20	3.5	34	15	21.6	M3×3.5	2.7	12	8	-	3.5	6.5	4.5	12.5	25	M3×8	3 330	4 290	26.6	15.4	12.9
-	LWL 12...BCS	○																											
MLG 12	LWLG 12...B	○	51	65	13	3	7.5	27	20	3.5	44	20	32	M3×3.5	2.7	12	8	-	3.5	6.5	4.5	12.5	25	M3×8	4 310	6 200	38.4	30.6	25.7
MLL 12		○																											
		○			13	3	7.5	27	20	3.5	59.5	30	47.3	M3×3.5	2.7	12	8	-	3.5	6.5	4.5	12.5	25	M3×8	5 820	9 540	59.1	69.8	58.6
		○																											

Notes (1) : Track rail lengths are shown in Table 3.1 on page II-10, Table 3.3 on page II-12.
 (2) : The appended track rail mounting bolts are hexagon socket head bolts of JIS B 1176 or equivalent. In stainless steel model, stainless steel made bolts are appended.
 (3) : Fixing thread depth of bolt ℓ must be less than H4.
 (4) : The direction of basic dynamic load rating (C), basic static load rating (C0) and static moment rating (T0, Tx, Ty) are shown in the sketches below. The upper values in the Tx and Ty columns apply to one slide unit, and the lower values apply to two slide units in close contact.
 In ML series of ceramic ball specification (* /HB*), see Table 10 on page II-17.

Remarks 1 : The specification of oil hole is shown in Table 13 on page II-18.
 2 : Model numbers marked * are semi-standard items.



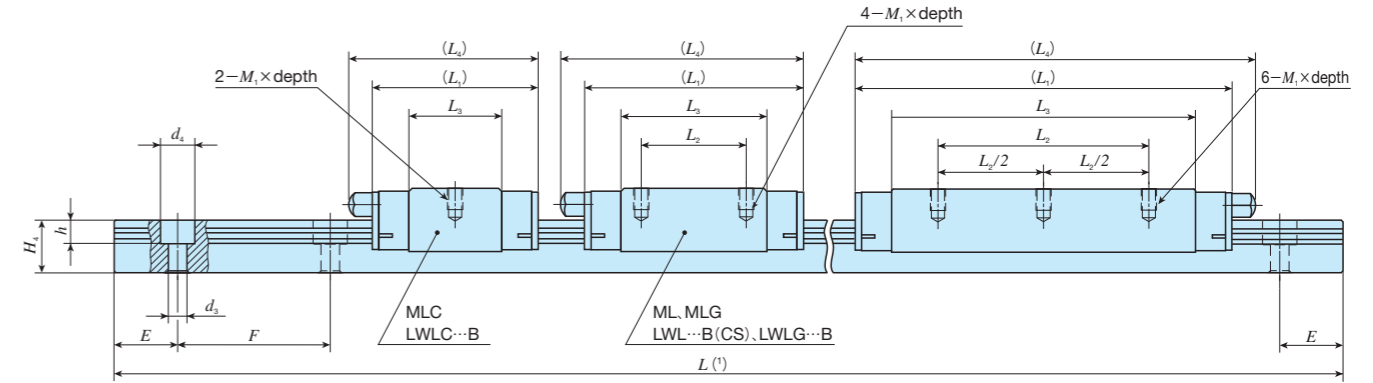
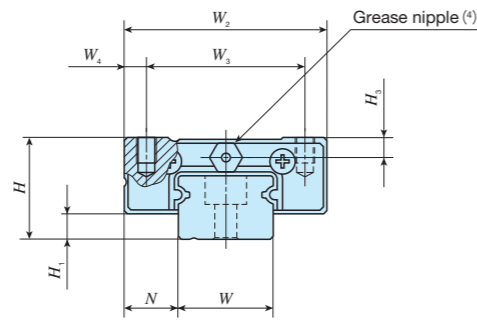
Example of identification number for assembled set

Model code	Size	Part code	Model code	Material	Preload amount	Class symbol	Interchangeable code	Supplemental code
ML	G	9	C2	R160	T1	P	S1	/S
1	2	3	4	5	6	7	8	9

① Series	③ Size	⑦ Preload amount	⑨ Interchangeable code
ML LWL...B Standard type LWL...N	9, 12	T0 Clearance No symbol Standard T1 Light preload	S1 Interchangeable specification S2 Interchangeable specification No symbol Non interchangeable specification
② Length of slide unit	④ Number of slide unit (two units)	⑧ Accuracy class	⑩ Special specification
C Short No symbol Standard G High rigidity long L Extra High rigidity long	2	H High P Precision	A, BS, D, E, HB, I, LR, MN N, Q, RE, S, U, W, Y
⑥ Material	⑤ Length of track rail (160mm)		
No symbol Stainless steel CS High carbon steel	160		

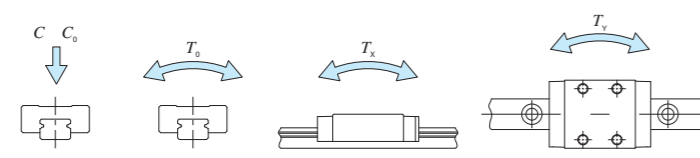
IKO C-Lube Linear Way ML

Standard type					
Shape	ML • LWL				
Size	1	2	3	5	7
	9	12	15	20	25



Model number	Interchangeable	Mass (Reference) g		Dimension of assembly mm			Dimension of slide unit mm					Dimension of track rail mm						Appended mounting bolt for track rail (2) mm	Basic dynamic load rating (3) C N	Basic static load rating (3) C0 N	Static moment rating (3) N·m										
		Slide unit	Track rail (per 100mm)	H	H1	N	W2	W3	W4	L1	L2	L3	L4	M1 x depth	H3	W	H4				d3	d4	h	E	F	T0	Tx	Ty			
MLC 15	○	43								32	-	17.8	37														3 490	3 890	30.0	11.7	9.8
LWLC 15...B	○	42										17.7																			
ML 15	○	63								42	20	27.9	47	M3x4												4 980	6 490	50.0	29.7	24.9	
-	○	64	107	16	4	8.5	32	25	3.5			27.8																			
LWL 15...BCS	○	64																													
MLG 15	○	93								57	25	42.8	62													6 620	9 740	75.0	63.9	53.6	
LWLG 15...B	○	95										42.7																			
MLL 15	○	122								72	40	57.7	76													8 370	13 600	105	122	102	
MLC 20	○	89								38	-	22.3	43													4 580	5 300	54.0	19.4	16.3	
LWLC 20...B	○	89																													
ML 20	○	130								50	25	34.6	55	M4x6												6 650	9 080	92.6	52.7	44.2	
LWL 20...B	○	130	156	20	5	10	40	30	5																						
-	○	133								68	30	52.3	73													8 510	12 900	131	102	85.7	
LWLG 20...B	○	196																													
MLC 25	○	189								54.5	-	31.9	64													9 120	10 600	128	57.4	48.1	
LWLC 25...B	○	190																													
ML 25	○	305								78	35	55.7	88	M6x7												13 500	18 500	223	163	137	
LWL 25...B	○	310	243	25	5	12.5	48	35	6.5																						
MLG 25	○	405								98	40	75.5	108													16 700	25 200	303	293	246	
LWLG 25...B	○	413																													

Notes (1) : Track rail lengths are shown in Table 3.1 on page II-10, Table 3.3 on page II-12.
 (2) : The appended track rail mounting bolts are hexagon socket head bolts of JIS B 1176 or equivalent. In stainless steel model, stainless steel made bolts are appended.
 (3) : The direction of basic dynamic load rating (C), basic static load rating (C0) and static moment rating (T0, Tx, Ty) are shown in the sketches below. The upper values in the Tx and Ty columns apply to one slide unit, and the lower values apply to two slide units in close contact.
 In MLC15, ML15, MLG15, and MLL15 of ceramic ball specification ("HB"), see Table 10 on page II-17.
 (4) : The specifications of grease nipple are shown in Table 14 on page II-18.



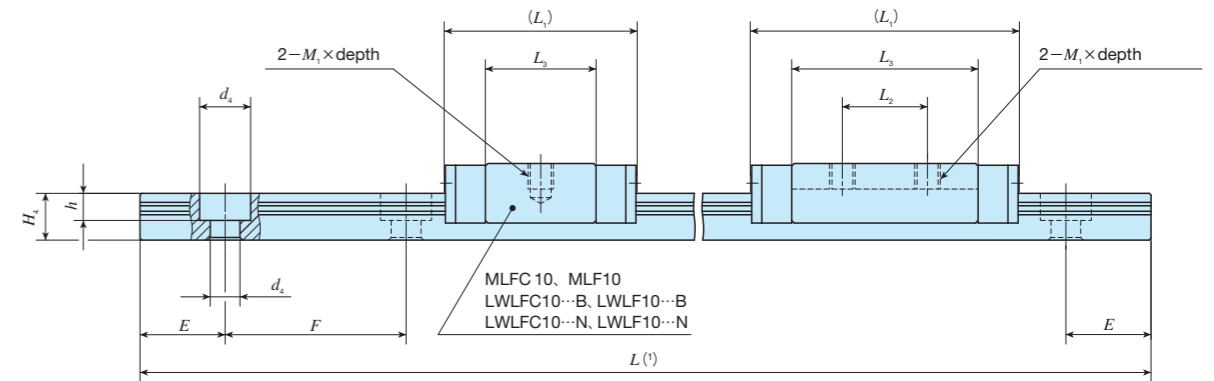
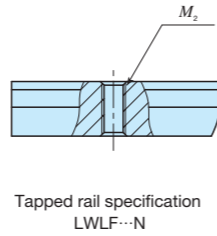
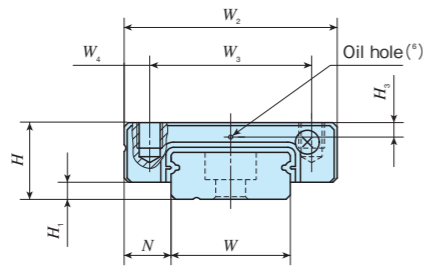
Example of identification number for assembled set

Model code	Size	Part code	Model code	Material	Preload amount	Class symbol	Interchangeable code	Supplemental code
ML	G	15	C2	R320	T1	P	S1	/S
1	2	3	4	5	6	7	8	9
10								

1 Series ML LWL...B Standard type	3 Size 15, 20, 25	7 Preload amount T0 Clearance No symbol Standard T1 Light preload	9 Interchangeable code S1 Interchangeable specification S2 Interchangeable specification No symbol Non interchangeable specification
2 Length of slide unit C Short No symbol Standard G High rigidity long L Extra High rigidity long	5 Length of track rail (320mm) No symbol Stainless steel CS High carbon steel	8 Accuracy class H High P Precision	10 Special specification A, BS, D, E, HB, I, LR, MN N, Q, RE, S, U, W, Y

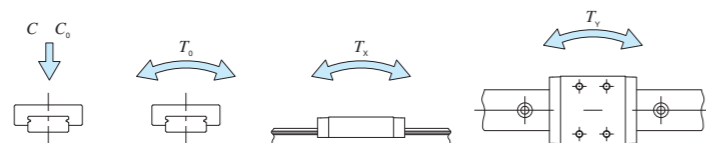
IKO C-Lube Linear Way ML

Wide type				
Shape	MLF • LWLF			
Size	4	6	10	14
	18	24	30	42



Model number	Interchangeable	Mass (Reference) g	Dimension of assembly mm		Dimension of slide unit mm										Dimension of track rail mm						Appended mounting bolt for track rail (3) mm	Basic dynamic load rating (5) C N	Basic static load rating (5) C ₀ N	Static moment rating (5) N·m						
			Slide unit	Track rail (per 100mm)	H	H ₁	N	W ₂	W ₃	W ₄	L ₁	L ₂	L ₃	M ₁ × depth	H ₃	W	H ₄	M ₂	d ₃	d ₄				h	E	F	T ₀	T _x	T _y	
—	LWLF 4 ⁽²⁾	—	2.1	6.8	4	1	3	10	—	5	17	6.5	11.9	M2 × 1.3	—	4	2.6	—	1.8	2.8	0.75	5	10	Cross-recessed head cap screw for precision equipment M1.6×5	390	677	1.4	1.3	1.5	
—	LWLF 6 ⁽²⁾	—	2.4	13	4.5	1	3	12	—	6	15	4.5	9.8	M2 × 1.6	—	6	2.8	—	2.4	4	1.5	7.5	15	Cross-recessed head cap screw for precision equipment M2×4	334	542	1.7	0.84	5.1	1.0
—	LWLF 6...N ^{(2)*}	12		(Not appended)																										
—	LWLF 6 ⁽²⁾	—	3.4	13	20	8	14.6	20	8	14.6	20	8	14.6	M2.5×1.5	1.3	10	4	—	2.4	4	1.5	10	20	Cross-recessed head cap screw for precision equipment M2×4	443	813	2.5	1.8	9.9	2.2
—	LWLF 6...N ^{(2)*}	12		(Not appended)																										
MLFC 10	LWLF 10...B	○	6.1	28	6.5	1.5	3.5	17	13	2	20.5	—	13.6	M2.5×1.5	1.3	10	4	—	2.9	4.8	1.6	10	20	Cross-recessed head cap screw for precision equipment M2.5×7	712	1 180	6.1	2.6	14.9	2.2
—	LWLF 10...N*	○	5.9	29																				(Not appended)						
MLF 10	LWLF 10...B	○	7.6	28	24.5	—	17.6	24.5	—	17.6	24.5	—	17.6	M2.5×1.5	1.3	10	4	—	2.9	4.8	1.6	10	20	Cross-recessed head cap screw for precision equipment M2.5×7	849	1 510	7.8	4.2	22.4	3.5
—	LWLF 10...N*	○	7.5	29																				(Not appended)						

Notes (1) : Track rail lengths are shown in Table 3.2 on page II-11.
 (2) : Size 4 and 6 are ball non-retained type. They are provided without end seals.
 (3) : The appended track rail mounting bolts are hexagon socket head bolts of JIS B 1176 or equivalent. In stainless steel model, stainless steel made bolts are appended.
 (4) : Fixing thread depth of bolt ℓ must be less than H₄
 (5) : The direction of basic dynamic load rating (C), basic static load rating (C₀) and static moment rating (T₀, T_x, T_y) are shown in the sketches below. The upper values in the T_x and T_y columns apply to one slide unit, and the lower values apply to two slide units in close contact.
 (6) : No oil hole is prepared for size 4 and 6.
 The specification of oil hole size 10 is shown in Table13 on page II-18.
 Remark : Model numbers marked * are semi-standard items.



Example of identification number for assembled set

Model code	Size	Part code	Model code	Preload amount	Class symbol	Interchangeable code	Supplemental code
MLF	C	10	C2	R120	—	T ₀	P
1	2	3	4	5	6	7	8
9							

① Series

MLF	Wide type
LWLF(...B)	
LWLF...N	

② Length of slide unit

C	Short
No symbol	Standard

③ Size

4, 6, 10

④ Number of slide unit (two units)

⑤ Length of track rail (120mm)

⑥ Preload amount

T ₀	Clearance
No symbol	Standard

⑦ Accuracy class

H	High
P	Precision

⑧ Interchangeable code

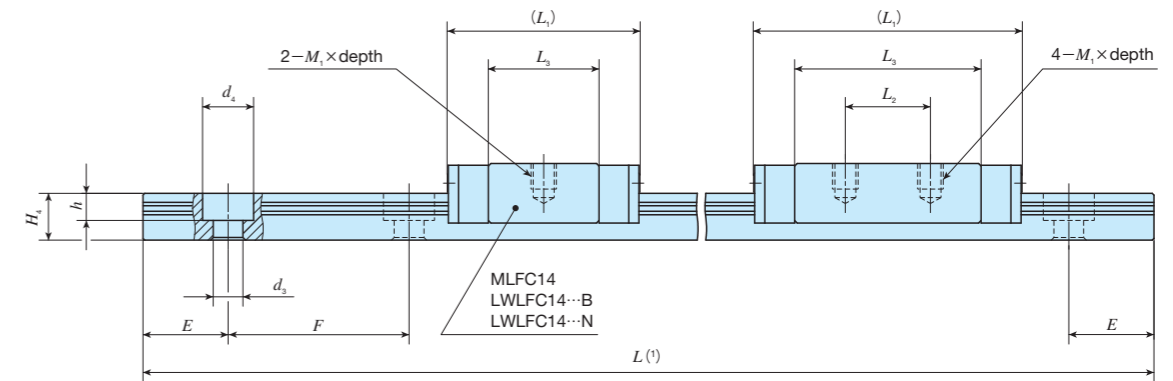
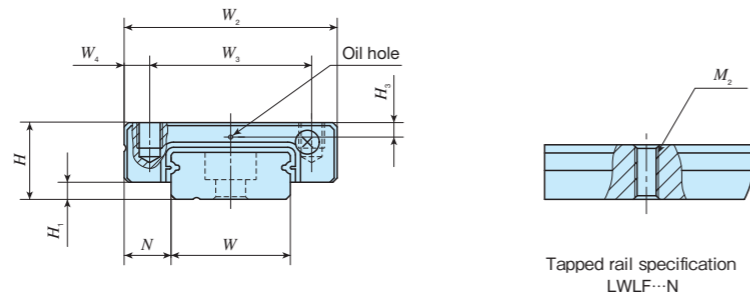
S1	Interchangeable specification
S2	Interchangeable specification
No symbol	Non interchangeable specification

⑨ Special specification

A, BS, D, E, I, MN, N, Q	
RE, S, W, Y	

IKO C-Lube Linear Way ML

Wide type				
MLF • LWLF				
Shape				
Size	4 18	6 24	10 30	14 42



Model number	Interchangeable	Mass (Reference) g	Dimension of assembly mm		Dimension of slide unit mm									Dimension of track rail mm						Appended mounting bolt for track rail (2) mm	Basic dynamic load rating (4) C N	Basic static load rating (4) C0 N	Static moment rating (4)																			
			Slide unit	Track rail (per 100mm)	H	H1	N	W2	W3	W4	L1	L2	L3	M1 x depth	H3	W	H4	M2	d3				d4	h	E	F	T0 N·m	Tx N·m	Ty N·m													
MLFC 14	LWLFC 14...B	○	13	54	9	2	5.5	25	19	3	22.5	-	13	M3 x 3	1.7	14	5.5	-	3.5	6	3.2	15	30	M3 x 8	1 240	1 700	12.2	3.8 24.6	3.2 20.7													
-	LWLFC 14...N*	-																												56	31.5	10	22	42	19	32.5	M4 Through	M4 x l (3) (Not appended)				
MLF 14	LWLF 14...B	○	20	54							31.5	10	22																	42	19	32.5	-	3.5	6	3.2	M3 x 8	1 770	2 840	20.3	10.1 54.7	8.4 45.9
-	LWLF 14...N*	-	21	56							-	-	-																	-	-	-	-	-	-	-	M4 Through	M4 x l (3) (Not appended)				
MLFG 14	LWLFG 14...B	○	29	54							-	-	-																	-	-	-	-	-	-	-	M3 x 8	2 320	4 160	29.8	21.0 104	17.6 87.6
-	LWLFG 14...N*	-	31	56							-	-	-																	-	-	-	-	-	-	-	M4 Through	M4 x l (3) (Not appended)				

Notes (1) : Track rail lengths are shown in Table 3.2 on page II-11.

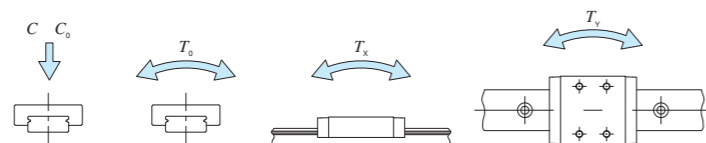
(2) : The appended track rail mounting bolts are hexagon socket head bolts of JIS B 1176 or equivalent. In stainless steel model, stainless steel made bolts are appended.

(3) : Fixing thread depth of bolt l must be less than H4.

(4) : The direction of basic dynamic load rating (C), basic static load rating (C0) and static moment rating (T0, Tx, Ty) are shown in the sketches below. The upper values in the Tx and Ty columns apply to one slide unit, and the lower values apply to two slide units in close contact.

Remarks 1 : The specification of oil hole is shown in Table13 on page II-18.

2 : Model numbers marked * are semi-standard items.



Example of identification number for assembled set

Model code	Size	Part code	Model code	Preload amount	Class symbol	Interchangeable code	Supplemental code
MLF	G	14	C2	R240	T1	P	S1 /S
1	2	3	4	5	6	7	8

① Series	
MLF	Wide type
LWLFC...B	
LWLFC...N	

② Length of slide unit	
C	Short
No symbol	Standard
G	High rigidity long

③ Size	14
--------	----

④ Number of slide unit (two units)	
⑤ Length of track rail (240mm)	

⑥ Preload amount	
T0	Clearance
No symbol	Standard
T1	Light preload

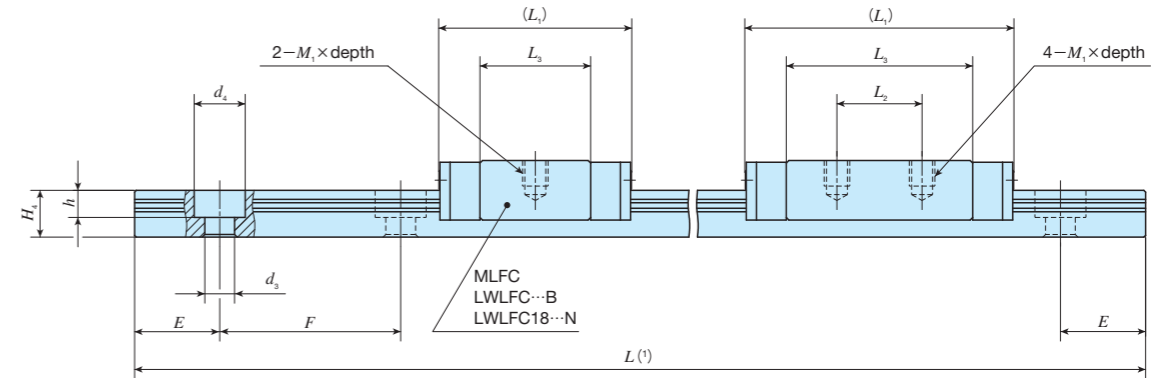
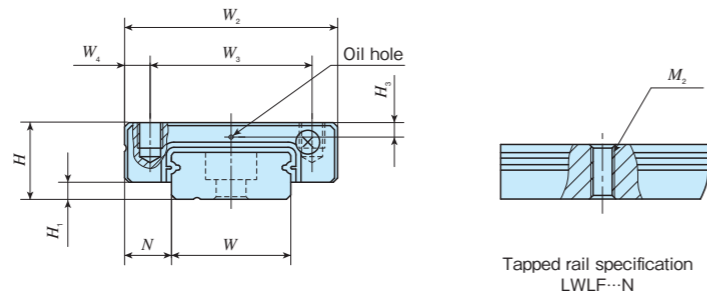
⑦ Accuracy class	
H	High
No symbol	Standard
P	Precision

⑧ Interchangeable code	
S1	Interchangeable specification
S2	Interchangeable specification
No symbol	Non interchangeable specification

⑨ Special specification	
A, BS, D, E, I, LR, MN	
N, Q, RE, S, W, Y	

IKO C-Lube Linear Way ML

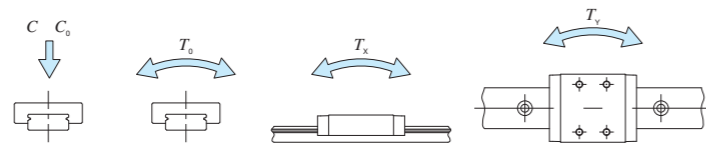
Wide type				
Shape	MLF • LWLF			
Size	4	6	10	14
	18	24	30	42



Model number	Interchangeable	Mass (Reference) g	Dimension of assembly mm		Dimension of slide unit mm									Dimension of track rail mm						Appended mounting bolt for track rail ⁽²⁾ mm	Basic dynamic load rating ⁽⁴⁾ C N	Basic static load rating ⁽⁴⁾ C ₀ N	Static moment rating ⁽⁴⁾						
			Slide unit	Track rail (per 100mm)	H	H ₁	N	W ₂	W ₃	W ₄	L ₁	L ₂	L ₃	M ₁ × depth	H ₃	W	H ₄	M ₂	d ₃				d ₄	h	E	F	Bolt size x length	T ₀ N·m	T _x N·m
MLFC 18	LWLFC 18...B	○	26	90	12	3	6	30	21	4.5	38.5	12	28.6	M3×3	2.5	18	7	-	3.5	6.5	4.5	15	30	M3×8	1 510	2 120	19.4	5.5 35.9	4.7 30.1
-	LWLFC 18...N*	-		92																									
MLF 18	LWLF 18...B	○	42	90	12	3	6	30	23	3.5	50.5	24	40.4	M3×3	2.5	18	7	-	3.5	6.5	4.5	15	30	M3×8	2 280	3 810	34.9	16.9 90.1	14.2 75.6
-	LWLF 18...BCS	○	44	92																									
MLFG 18	LWLFG 18...B	○	59	90	12	3	6	30	23	3.5	50.5	24	40.4	M3×3	2.5	18	7	-	3.5	6.5	4.5	15	30	M3×8	2 870	5 300	48.5	31.9 159	26.7 134
-	LWLFG 18...N*	-	61	92																									
MLFC 24	LWLFC 24...B	○	46	90	14	3	8	40	28	6	44	15	31	M3×3.5	3.2	24	8	-	4.5	8	4.5	20	40	M4×10	2 800	3 340	40.7	9.7 67.6	8.2 56.8
-	LWLF 24...B	○	45	30.5																									
MLF 24	LWLF 24...B	○	74	90	14	3	8	40	28	6	44	15	31	M3×3.5	3.2	24	8	-	4.5	8	4.5	20	40	M4×10	4 310	6 200	75.6	30.6 168	25.7 141
-	LWLF 24...BCS	○	76	30.5																									
MLFG 24	LWLFG 24...B	○	108	90	14	3	8	40	28	6	44	15	31	M3×3.5	3.2	24	8	-	4.5	8	4.5	20	40	M4×10	5 620	9 060	111	63.3 321	53.1 270
-	LWLFG 24...N*	-	111	59																									

Notes (1) : Track rail lengths are shown in Table 3.2 on page II-11, Table 3.3 on page II-12.
 (2) : The appended track rail mounting bolts are hexagon socket head bolts of JIS B 1176 or equivalent. In stainless steel model, stainless steel made bolts are appended.
 (3) : Fixing thread depth of bolt ℓ must be less than H₄.
 (4) : The direction of basic dynamic load rating (C), basic static load rating (C₀) and static moment rating (T₀, T_x, T_y) are shown in the sketches below. The upper values in the T_x and T_y columns apply to one slide unit, and the lower values apply to two slide units in close contact.

Remarks 1 : The specification of oil hole is shown in Table13 on page II-18.
 2 : Model numbers marked * are semi-standard items.

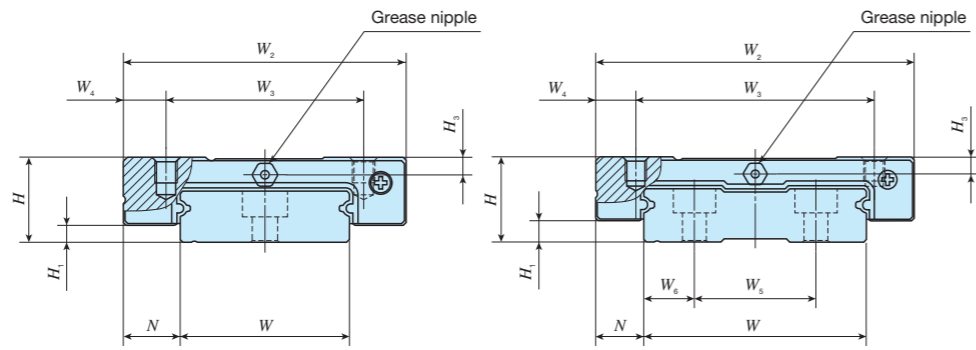


Example of identification number for assembled set

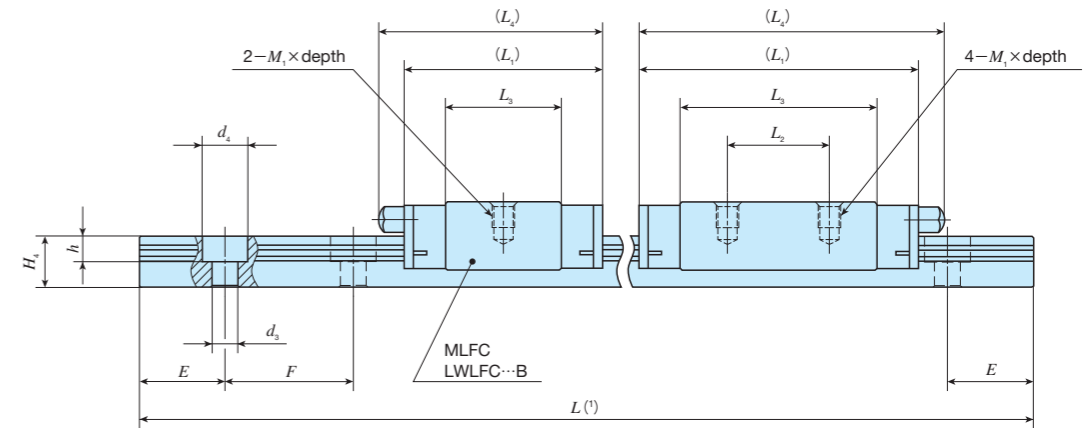
Model code	Size	Part code	Model code	Material	Preload amount	Class symbol	Interchangeable code	Supplemental code
MLF	G	18	C2	R300	T1	P	S1	/S
①	②	③	④	⑤	⑥	⑦	⑧	⑨
① Series	② Length of slide unit	③ Size	④ Number of slide unit (two units)	⑤ Length of track rail (300mm)	⑥ Length of track rail	⑦ Preload amount	⑧ Accuracy class	⑨ Interchangeable code
MLF LWLF...B Wide type LWLF...N	C Short No symbol Standard G High rigidity long	18, 24	2	No symbol Stainless steel CS High carbon steel	No symbol CS	To Clearance No symbol Standard T1 Light preload	H High P Precision	S1 Interchangeable specification S2 Interchangeable specification No symbol Non interchangeable specification
								⑩ Special specification A, BS, D, E, I, LR, MN N, Q, RE, S, U, W, Y

IKO C-Lube Linear Way ML

Wide type				
Shape	MLF • LWLF			
Size	4	6	10	14
	18	24	30	42



MLFC 42, LWLFC 42...B
MLF 42, LWLF 42...B (CS)
MLFG 42, LWLFG 42...B



Model number	Interchangeable	Mass (Reference) g	Dimension of assembly mm	Dimension of slide unit mm											Dimension of track rail mm						Appended mounting bolt for track rail (2) mm	Basic dynamic load rating (3) C N	Basic static load rating (3) C0 N	Static moment rating (3) N·m							
				Slide unit	Track rail (per 100mm)	H	H1	N	W2	W3	W4	L1	L2	L3	L4	M1 × depth	H3	W	H4	W5				W6	d3	d4	h	E	F	Bolt size x length	T0
MLFC 30	LWLFC 30...B	○	70	198	15	3	10	50	35	7.5	35.5	—	20.5	40	M4×4.5	3.1	30	9	—	—	4.5	8	4.5	20	40	M4×12	3 890	4 540	69.1	15.4	13.0
MLF 30	LWLF 30...B	○	111								49.5	18	34.8	54													48.7	40.8			
—	LWLF 30...BCS	○	112								68.5	35	53.8	73													259	217			
MLFG 30	LWLFG 30...B	○	167								74.5	35	58.7	79													100	84.3			
—	LWLFG 30...B	○	170								58.3	—	—	—													508	426			
MLFC 42	LWLFC 42...B	○	95	294	16	4	9	60	45	7.5	41.5	—	25.7	46	M4×4.5	3.2	42	10	23	9.5	4.5	8	4.5	20	40	M4×12	5 440	6 810	144	30.8	25.8
MLF 42	LWLF 42...B	○	138								55	20	39.4	60													180	151			
—	LWLF 42...BCS	○	140								74.5	35	58.7	79													24.8	20.8			
MLFG 42	LWLFG 42...B	○	200								58.3	—	—	—													164	137			
—	LWLFG 42...B	○	204								74.5	35	58.7	79													61.3	51.4			

Notes (1) : Track rail lengths are shown in Table 3.2 on page II-11, Table 3.3 on page II-12.
 (2) : The appended track rail mounting bolts are hexagon socket head bolts of JIS B 1176 or equivalent. In stainless steel model, stainless steel made bolts are appended.
 (3) : The direction of basic dynamic load rating (C), basic static load rating (C0) and static moment rating (T0, Tx, Ty) are shown in the sketches below. The upper values in the Tx and Ty columns apply to one slide unit, and the lower values apply to two slide units in close contact.

Remark : The specifications of grease nipple are shown in Table14 on page II-18.

Example of identification number for assembled set

Model code	Size	Part code	Model code	Material	Preload amount	Class symbol	Interchangeable code	Supplemental code
MLF	G	42	C2	R320	T1	P	S1	/S
①	②	③	④	⑤	⑥	⑦	⑧	⑨

① Series

MLF	Wide type
LWLFC...B	

③ Size

30, 42

⑦ Preload amount

T0	Clearance
No symbol	Standard
T1	Light preload

⑨ Interchangeable code

S1	Interchangeable specification
S2	Interchangeable specification
No symbol	Non interchangeable specification

② Length of slide unit

C	Short
No symbol	Standard
G	High rigidity long

④ Number of slide unit (two units)

⑤ Length of track rail (320mm)

⑥ Length of track rail

No symbol	Stainless steel
CS	High carbon steel

⑧ Accuracy class

H	High
P	Precision

⑩ Special specification

A, BS, D, E, I, LR, MN
N, Q, RE, S, U, W, Y

