

New Products Linear slide cylinder LMG Series

LINEAR SLIDE CYLINDER LMG SERIES

High rigidity Free installation



CKD (China) Corporation C-CC-1288A

Compact size and easy to be installed High cost performance



Side by side installation helps to save the space



4 sides installation



3 sides piping and 2 sides switch installation



This product is suitable for phone manufacturing and precision mechanism industry. It can be used as Z axis.



Two sides rubber cushion helps to reduce the impact and the crash.

Series variation





Linear slide cylinder double acting \cdot single rod type

LMG Series

• Bore size: $\varphi 6 \cdot \varphi 10 \cdot \varphi 16 \cdot \varphi 20$





Common specifications

Descriptions	LMG								
Bore size mm	φ6	<i>φ</i> 10	φ 16	φ20					
Actuation		Double acting							
Working fluid		Compre	ssed air						
Port size		M5>	<0.8						
Min. working pressure MPa	0.15	0.0	06	0.05					
Max. working pressure MPa		0.7							
Withstanding pressure MPa		1.(05						
Ambient temperature °C		-10~60(to be unfrozen)							
Working piston speed mm/s		50~	·500						
Allowable energy absorption J	0.010	0.035	0.130	0.110					
Cushion		Rubber c	ushioned						
Lubrication	Not	Not required (when lubrication, use turbine oil class 1 ISOV G32)							
Stroke length tolerance mm		+2.0							
Switch type		F2AH	F2AV						

Stroke length

Bore size(mm)	Standard stroke length(mm)
φ6	
<i>φ</i> 10	5 • 10 • 15 • 20 • 25 •
<i>φ</i> 16	30 • 40 • 50 • 60
φ 20	

Theoretical thrust table

Theoretical thrust table (Unit								(Unit: N)
Bore size(mm)	Operation		Working pressure					
	direction	0.15	0.2	0.3	0.4	0.5	0.6	0.7
φ6	PUSH	4	6	8	11	14	17	20
	PULL	3	4	6	8	11	13	15
<i>n</i> 40	PUSH	12	16	24	31	39	47	55
φισ	PULL	10	13	20	26	33	40	46
<i>φ</i> 16	PUSH	30	40	60	80	101	121	141
	PULL	27	36	54	73	91	109	127
<i>"</i> 20	PUSH	47	63	94	126	157	188	220
φ 20	PULL	35	47	71	94	118	141	165

Switch specifications

Descriptions	Reed 2 wire				
Descriptions	F2AH • F2AV				
Applications	For PLC only				
Output	_				
Power voltage	-				
Load voltage	DC10~30V				
Load current	5~20mA				
Light	LED				
Leakage current	0.5mA or less				
Weight g	1m: 10 3m: 29 5m: 48				

Cylinder weight

(Unit: g)

, ,			(
Bore size	Stroke length(mm)		The adding weight for stroke
(mm)	5	60	length of every 5mm
φ6	60	137	7
<i>φ</i> 10	106	224	12
<i>φ</i> 16	197	363	15
φ 20	370	655	26



Head side port

Left side of the push direction

Port Right side of the push direction

CKD

Internal structure and part list

LMG-6



Part list

No.	Part name	Material	Quantity	Comment	No.	Part name	Material	Quantity	Comment
1	Hexagon nut	Stainless steel	2		12	Rod cover packing seal	NBR	1	
2	Slide table	Aluminum alloy	1	Hard aluminum oxide	13	Rod packing seal	NBR	1	
3	Rod cover B	Aluminum alloy	1	Hard aluminum oxide	14	Rod cover A	Stainless steel	1	
4	Ball	Stainless steel	1		15	High precision guide	Stainless steel	1	
5	Head cover	Stainless steel	1		16	Hexagon socket head cap screw	Stainless steel	4	
6	Piston rod	Stainless steel	1		17	Piston magnet	-	1	
7	Piston packing seal	NBR	1		18	Right piston	Aluminum alloy	1	
8	Cylinder main body	Aluminum alloy	1	Hard aluminum oxide	19	Cushion rubber H	Urethane rubber	1	
9	Ball	Stainless steel	2		20	Piston	Aluminum alloy	1	
10	Countersunk head screw	Alloy steel	n	Zincing	21	Cushion rubber R	Urethane rubber	1	
11	Hexagon socket head cap screw	Alloy steel	4	Zincing					

•LMG-10, 16, 20



Part list

No.	Part name	Material	Quantity	Comment	No.	Part name	Material	Quantity	Comment
1	Hexagon nut	Stainless steel	2		11	Ball	Stainless steel	2	
2	Slide table	Aluminum alloy	1	Hard aluminum oxide	12	Hexagon socket head cap screw	Alloy steel	n	Zincing
3	C type snap ring	Carbon spring steel	2		13	Hexagon socket head cap screw	Alloy steel	4	Zincing
4	O ring	NBR	2		14	Rod packing seal	NBR	1	
5	Ball	Stainless steel	1		15	Rod cover	Aluminum alloy	1	Hard aluminum oxide
6	Cushion rubber	Urethane rubber	2		16	High precision guide	Stainless steel	1	
7	Piston rod	Stainless steel	1		17	Hexagon socket head cap screw	Stainless steel	4	
8	Piston packing seal	NBR	1		18	Right piston	Aluminum alloy	1	
9	Cylinder main body	Aluminum alloy	1	Hard aluminum oxide	19	Piston magnet	—	1	
10	Head cover	Aluminum alloy	1	Hard aluminum oxide	20	Piston	Aluminum alloy	1	

Dimensions (Bore size: φ 6)

●LMG-6



Table 1

Stroke length (mm)	n	LA	LB	LT
st≪5	4	10	—	43.5
5 <st≤10< td=""><td>4</td><td>10</td><td>—</td><td>48.5</td></st≤10<>	4	10	—	48.5
10 <st≤15< td=""><td>4</td><td>20</td><td>—</td><td>53.5</td></st≤15<>	4	20	—	53.5
15 <st≤20< td=""><td>4</td><td>20</td><td>—</td><td>58.5</td></st≤20<>	4	20	—	58.5
20 <st≤25< td=""><td>4</td><td>30</td><td>—</td><td>63.5</td></st≤25<>	4	30	—	63.5
25 <st≤30< td=""><td>4</td><td>30</td><td>—</td><td>68.5</td></st≤30<>	4	30	—	68.5
30 <st≤40< td=""><td>6</td><td>20</td><td>20</td><td>78.5</td></st≤40<>	6	20	20	78.5
40 <st≤50< td=""><td>6</td><td>25</td><td>25</td><td>88.5</td></st≤50<>	6	25	25	88.5
50 <st≤60< td=""><td>6</td><td>30</td><td>30</td><td>98.5</td></st≤60<>	6	30	30	98.5

Table 2

Stroke length (mm)	Stroke length code	NS
st≪5	5	14
5 <st≤10< td=""><td>10</td><td>14</td></st≤10<>	10	14
10 <st≤15< td=""><td>15</td><td>24</td></st≤15<>	15	24
15 <st≤20< td=""><td>20</td><td>24</td></st≤20<>	20	24
20 <st≤25< td=""><td>25</td><td>30</td></st≤25<>	25	30
25 <st≤30< td=""><td>30</td><td>30</td></st≤30<>	30	30
30 <st≤40< td=""><td>40</td><td>45</td></st≤40<>	40	45
40 <st≤50< td=""><td>50</td><td>55</td></st≤50<>	50	55
50 <st≤60< td=""><td>60</td><td>60</td></st≤60<>	60	60

Switch installation







Note1: The installation dimension of SW-F2AH and SW-F2AV are the same. Note2: The switch installation tightening torque is $0.1 \sim 0.15N \cdot m$.

Dimensions (Bore size: φ 10)



Table 1

Stroke length (mm)	n	LA	LB	LT
st≪5	4	10	-	50.5
5 <st≤10< td=""><td>4</td><td>10</td><td>—</td><td>55.5</td></st≤10<>	4	10	—	55.5
10 <st≤15< td=""><td>4</td><td>20</td><td>—</td><td>60.5</td></st≤15<>	4	20	—	60.5
15 <st≤20< td=""><td>4</td><td>20</td><td>—</td><td>65.5</td></st≤20<>	4	20	—	65.5
20 <st≤25< td=""><td>4</td><td>30</td><td>—</td><td>70.5</td></st≤25<>	4	30	—	70.5
25 <st≤30< td=""><td>4</td><td>30</td><td>—</td><td>75.5</td></st≤30<>	4	30	—	75.5
30 <st≤40< td=""><td>6</td><td>20</td><td>20</td><td>85.5</td></st≤40<>	6	20	20	85.5
40 <st≤50< td=""><td>6</td><td>25</td><td>25</td><td>95.5</td></st≤50<>	6	25	25	95.5
50 <st≤60< td=""><td>6</td><td>30</td><td>30</td><td>105.5</td></st≤60<>	6	30	30	105.5

Table 2

Stroke length (mm)	Stroke length code	NS
st≪5	5	14
5 <st≤10< td=""><td>10</td><td>14</td></st≤10<>	10	14
10 <st≤15< td=""><td>15</td><td>24</td></st≤15<>	15	24
15 <st≤20< td=""><td>20</td><td>24</td></st≤20<>	20	24
20 <st≤25< td=""><td>25</td><td>30</td></st≤25<>	25	30
25 <st≤30< td=""><td>30</td><td>30</td></st≤30<>	30	30
30 <st≤40< td=""><td>40</td><td>45</td></st≤40<>	40	45
40 <st≤50< td=""><td>50</td><td>55</td></st≤50<>	50	55
50 <st≤60< td=""><td>60</td><td>60</td></st≤60<>	60	60

Switch installation







Note1: The installation dimension of SW-F2AH and SW-F2AV are the same. Note2: The switch installation tightening torque is $0.1 \sim 0.15N \cdot m$.



Dimensions (Bore size: φ 16)



Table 1

Stroke length (mm)	n	LA	LB	LT
st≪5	4	10	_	60
5 <st≤10< td=""><td>4</td><td>10</td><td>—</td><td>65</td></st≤10<>	4	10	—	65
10 <st≤15< td=""><td>4</td><td>20</td><td>—</td><td>70</td></st≤15<>	4	20	—	70
15 <st≤20< td=""><td>4</td><td>20</td><td>—</td><td>75</td></st≤20<>	4	20	—	75
20 <st≤25< td=""><td>4</td><td>30</td><td>—</td><td>80</td></st≤25<>	4	30	—	80
25 <st≤30< td=""><td>4</td><td>30</td><td>—</td><td>85</td></st≤30<>	4	30	—	85
30 <st≤40< td=""><td>6</td><td>20</td><td>20</td><td>95</td></st≤40<>	6	20	20	95
40 <st≤50< td=""><td>6</td><td>25</td><td>25</td><td>105</td></st≤50<>	6	25	25	105
50 <st≤60< td=""><td>6</td><td>30</td><td>30</td><td>115</td></st≤60<>	6	30	30	115

Table 2

Stroke length (mm)	Stroke length code	NS
st≪5	5	20
5 <st≤10< td=""><td>10</td><td>20</td></st≤10<>	10	20
10 <st≤15< td=""><td>15</td><td>30</td></st≤15<>	15	30
15 <st≤20< td=""><td>20</td><td>30</td></st≤20<>	20	30
20 <st≤25< td=""><td>25</td><td>40</td></st≤25<>	25	40
25 <st≤30< td=""><td>30</td><td>40</td></st≤30<>	30	40
30 <st≤40< td=""><td>40</td><td>50</td></st≤40<>	40	50
40 <st≤50< td=""><td>50</td><td>60</td></st≤50<>	50	60
50 <st≤60< td=""><td>60</td><td>60</td></st≤60<>	60	60

Switch installation







Note1: The installation dimension of SW-F2AH and SW-F2AV are the same. Note2: The switch installation tightening torque is 0.1 \sim 0.15N \cdot m.

Dimensions (Bore size: φ 20)

LMG-20



Table 1

Stroke length (mm)	n	LA	LB	LT
st≪5	4	10	—	72
5 <st≤10< td=""><td>4</td><td>10</td><td>—</td><td>77</td></st≤10<>	4	10	—	77
10 <st≤15< td=""><td>4</td><td>20</td><td>—</td><td>82</td></st≤15<>	4	20	—	82
15 <st≤20< td=""><td>4</td><td>20</td><td>—</td><td>87</td></st≤20<>	4	20	—	87
20 <st≤25< td=""><td>4</td><td>30</td><td>-</td><td>92</td></st≤25<>	4	30	-	92
25 <st≤30< td=""><td>4</td><td>30</td><td>-</td><td>97</td></st≤30<>	4	30	-	97
30 <st≤40< td=""><td>6</td><td>20</td><td>20</td><td>107</td></st≤40<>	6	20	20	107
40 <st≤50< td=""><td>6</td><td>25</td><td>25</td><td>117</td></st≤50<>	6	25	25	117
50 <st≤60< td=""><td>6</td><td>30</td><td>30</td><td>127</td></st≤60<>	6	30	30	127

Table 2

Stroke length (mm)	Stroke length code	NS
st≪5	5	20
5 <st≤10< td=""><td>10</td><td>20</td></st≤10<>	10	20
10 <st≤15< td=""><td>15</td><td>25</td></st≤15<>	15	25
15 <st≤20< td=""><td>20</td><td>25</td></st≤20<>	20	25
20 <st≤25< td=""><td>25</td><td>40</td></st≤25<>	25	40
25 <st≤30< td=""><td>30</td><td>40</td></st≤30<>	30	40
30 <st≤40< td=""><td>40</td><td>50</td></st≤40<>	40	50
40 <st≤50< td=""><td>50</td><td>70</td></st≤50<>	50	70
50 <st≤60< td=""><td>60</td><td>70</td></st≤60<>	60	70

Switch installation







Note1: The installation dimension of SW-F2AH and SW-F2AV are the same. Note2: The switch installation tightening torque is $0.1 \sim 0.15N \cdot m$.

STEP-1

Verify the load factor and bore size

 $\alpha = \frac{F_0}{F} \times 100 [\%]$

- α : Load factor
- Fo: Required force to move workpiece (N)
- F : Cylinder theoretical thrust (N) [Table 1]

Horizontal operation	Vertical operation			
Fo = Fw	Fo = W + Fw			
Fw: W×0.2 _{Note} (N)				
W: Load(N)				
Note: Friction coefficie	ent			

STEP-2

[Ta

able 1] Theoretical thrust table								(Unit: N)
Bore size	Operation	Working pressure (MPa)						
(mm)	direction	0.15	0.2	0.3	0.4	0.5	0.6	0.7
<i>~ 6</i>	PUSH	4	6	8	11	14	17	20
φο	PULL	3	4	6	8	11	13	15
<i>φ</i> 10	PUSH	12	16	24	31	39	47	55
	PULL	10	13	20	26	33	40	46
<i>(</i>) 16	PUSH	30	40	60	80	101	121	141
φιο	PULL	27	36	54	73	91	109	127
φ20	PUSH	47	63	94	126	157	188	220
	PULL	35	47	71	94	118	141	165

MG Series Selection guide

[Table 2] Reference value for load factor

Working pressure (MPa)	Load factor (%)
0.2~0.3	α≪40
0.3~0.6	α≪50
0.6~0.7	α≪60

Calculate the speed at stroke end (Vm) and the coefficient G

Stroke end (Vm) and the coefficient G can be calculated according to the average speed (Va) and the load factor being calculated in STEP-1.



Selection guide

STEP-3

Verify the allowable energy absorption



STEP-4

Verify the static composite moment M'T

Calculate the static load (moment) and impact moment when stroke ends. The static composite moment M'T can then be calculated.

Vertical load: W' (N)

Bending moment: M1' (N · m)

W'=W

M1'=W×L

M1'× G

M3'× G

М'т =

W'

M2'



W

۲

(N)

 $(N \cdot m)$

(N · m)

 $(N \cdot m)$

M2'

M2'max

۲

=

= M1'×G

M1'max





[Table 3] Allowable energy absorption of LMG (E)

(Unit: g)

The slide table adding weight for the

ncreasing stroke length of every 5mi

1.3

2

3

4



●Radial moment: M3' (N · m)



M3'=W×L

М'т	: Static composite moment
G	: Coefficient G

: Coefficient G

W'max : Max. allowable value of W' (from table 5)

M1'max : Max. allowable value of M1' (from table 5)

M2'max : Max. allowable value of M2' (from table 5)

M3'max : Max. allowable value of M3' (from table 5)

[Table 5]	Allowable	static	load
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W'max

Bore size (mm)	Vertical load (N) W'max	Bending moment (N・m) M1'max	Twist moment (N ⋅ m) M2'max	Radial moment (N・m) M3'max
φ6	36	0.47	0.59	0.39
<i>φ</i> 10	99	0.96	1.37	0.82
<i>φ</i> 16	253	1.88	2.75	1.59
φ 20	396	3.14	5.49	2.75

M3'×G

M3'max

Make sure the equation $M' \tau \leq 1$ exists.



M2

STEP-5

Verify the travel composite moment MT. (Please note that this is different from the value achieved from STEP-4) ●Vertical load: W (N) ●Twist moment: M2 (N · m)









M2=W×L2

Μт

M2=F2×L2

Bending moment: M1 (N · m)



L1=A+L

[Tab	le 6	l L va	lue
LIUD] = '''	iuc

Bore size (mm)	L (mm)
φ6	LT-13
<i>φ</i> 10	LT-18.5
<i>φ</i> 16	LT-22.7
φ 20	LT-28.5



Wmax	: Max.	allowable	value of	W (from	table 7)
M1max	: Max.	allowable	value of l	M1 (from	table 7)
M2max	: Max.	allowable	value of l	M2 (from	table 7)
M3max	: Max.	allowable	value of I	M3 (from	table 7)

: Static composite moment

[Table 7] Allowable travel load

Bore size (mm)	Vertical load (N) Wmax	Bending moment (N ⋅ m) M1max	Twist moment (N ⋅ m) M2max	Radial moment (N ⋅ m) M3max
φ6	12	0.16	0.20	0.13
φ 10	33	0.32	0.46	0.27
φ 16	84	0.63	0.92	0.53
φ 20	132	1.05	1.83	0.92

Make sure the equation $MT \leq 1$ exists.

Technical data

Deflection of slide table

[Deflection of slide table caused by moment M1, M2 and M3]

Moment M1: The deflection of the front end of slide table while applying load at the same point. Moment M2: The deflection of the point A while applying load at the point F.

Moment M3: The deflection of the front end of slide table while applying the moment: M3.











Safety precautions

Always read this section before starting use.

When designing and manufacturing a device using CKD products, the manufacturer is obligated to check that device safety mechanism, pneumatic control circuit, or water control circuit and the system operated by electrical control that controls the devices is secured.

It is important to select, use, handle, and maintain the product appropriately to ensure that the CKD product is used safely. Observe warnings and precautions to ensure device safety.

Check that device safety is ensured, and manufacture a safe device.

WARNING

- 1 This product is designed and manufactured as a general industrial machine part.
- It must be handled by an operator having sufficient knowledge and experience in handling.
- 2 Use this product in accordance with specifications.
 - This product must be used within its stated specifications. It must not be modified or machined.

This product is intended for use as a general-purpose industrial device or part. It is not intended for use outdoors or for use under the following conditions or environment.

(If you consult CKD upon adoption and consent to CKD product specification, it will be applicable, however, safeguards should be adopted that will circumvent dangers in the event of failure.)

- Use for special applications including nuclear energy, railway, aircraft, marine vessel, vehicle, medicinal devices, devices or applications coming into contact with beverages or foodstuffs, amusement devices, emergency shutoff circuits, press machine, brake circuits, or for safeguard.
- **2** Use for applications where life or assets could be adversely affected, and special safety measures are required.
- 3 Observe corporate standards and regulations, etc., related to the safety of device design and control, etc. ISO 4414, JIS B 8370 (pneumatic system rules)
 - JFPS2008 (principles for pneumatic cylinder selection and use)

Including High Pressure Gas Maintenance Law, Occupational Safety and Sanitation Laws, other safety rules, body standards and regulations, etc.

- I Do not handle, pipe, or remove devices before confirming safety.
 - Inspect and service the machine and devices after confirming safety of the entire system related to this product.
 - Note that there may be hot or charged sections even after operation is stopped.
 When inspecting or servicing the device, turn off the energy source (air supply or water supply) and
 - When inspecting or servicing the device, turn off the energy source (air supply or water supply), and turn off power to the facility. Discharge any compressed air from the system, and pay attention to possible water leakage and leakage of electricity.
 When starting or restarting a machine or device that incorporates pneumatic components, make sure that the
 - system safety, such as pop-out prevention measures, is secured.
- 5 Observe warnings and cautions on the pages below to prevent accidents.

The safety cautions are ranked as "DANGER", "WARNING" and "CAUTION" in this section.

A DANGER: When a dangerous situation may occur if handling is mistaken leading to fatal or serious injuries, or when there is a high degree of emergency to a warning.

MARNING: When a dangerous situation may occur if handling is mistaken leading to fatal or serious injuries.

CAUTION: When a dangerous situation may occur if handling is mistaken leading to minor injuries or physical damage.

Note that some items described as "CAUTION" may lead to serious results depending on the situation. In any case, important information that must be observed is explained.

Disclaimer

1 Warranty period

"Warranty Period" is one (1) year from the first delivery to the customer.

2 Scope of warranty

In case any defect attributable to CKD is found during the term of warranty, CKD shall, at its own discretion repair the defect or replace the relevant product in whole or in part, according to its judgement. Note that the following faults are excluded from the warranty term:

- (1) Product abuse/misuse contrary to conditions/environment recommended in its catalogs/specifications
- (2) Failure caused by other than the delivered product
- (3) Use other than original design purposes
- (4) Third-party repair/modification
- (5) Faults caused by reason that is unforeseble with technology put into practical use at the time of delivery

(6) Failure attributable to force majeure The warranty mentioned here covers the discrete delivered product. Only the scope of warranty shall not cover losses induced by the failure of the delivered product.

3 Compatibility confirmation

In no event shall CKD be liable for merchantability or fitness for a particular purpose, notwithstanding any disclosure to CKD of the use to which the product is to be put.



Pneumatic Component

Safety precautions

Always read this section before using. Refer to "Pneumatic cylinders (CB-029S)" for general details on cylinders and cylinder switches.

Specific precautions: Linear slide cylinder LMG Series

Design & Selection

Please read the "LMG series; Selection guild" carefully before ording.

Malfunction and damaging may occur if the cylinder has been used under the environment with the exposure of water and oil. Please protect the product with cover under these conditions. Please avoid using the product within the environment where vibration may occure. The performance of the cylinder may be unstable due to the impact of vibration.

Installation & Adjustment



CAUTION

Precautions for piping joint. Install a speed control valve when piping. The applicable fittings are shown as below.



Bore size (mm)	Port size	Port position Dimension A	Applicable fittings	Fitting O.D.B
φ6	M5	5.5	SC3W-M5-4 SC3W-M5-6 GWS4-M5-S GWS6-M5-S	φ 11 or less
<i>φ</i> 10		6.0	SC3W-M5-4 SC3W-M5-6 GWS4-M5-S	@ 12 or less
<i>φ</i> 16		6.5	GWS6-M5-S GWS4-M5 GWL6-M5	φ 12 01 1000
φ 20		7.0	SC3W-M5-4 SC3W-M5-6 GWS4-M5-S GWS6-M5-S GWS4-M5 GWL6-M5 GWS6-M5	φ 14 or less

2. Installation

Please check that no dents or scratches that may affect the flatness of the product occurs on the installation sides of the cylinder.

Besides, please maintain the flatness between the slide table and the corresponding installed component under 0.02mm. There are four ways to install the cylinder onto the target device. Please obey the value listed below during installation.

Installation of main body (though hole installation)



Bore size (mm)	Applicable bolts	Tightening torque(N · m)	L(mm)
φ6	M3×0.5	1.1	12.7
<i>φ</i> 10	M4×0.7	2.5	15.6
<i>φ</i> 16	M4×0.7	2.5	20.6
φ 20	M5×0.8	5.1	24.0

Installation of main body (screw hole installation)



Bore size (mm)	Applicable bolts	Tightening torque(N · m)	L1(mm)	L(mm)
φ6	M4×0.7	2.5	12.7	9.4
<i>φ</i> 10	M5×0.8	5.1	15.6	11.2
<i>φ</i> 16	M5×0.8	5.1	20.6	16.2
φ20	M6×1.0	8.1	24.0	16.0



LMG series

Installation & Adjustment

Vertical installation



Bore size (mm)	Applicable bolts	Tightening torque(N · m)	L(mm)
φ6	M3×0.5	1.1	4.8
<i>φ</i> 10	M4×0.7	2.5	6.0
φ16	M4×0.7	2.5	6.0
φ20	M5×0.8	5.1	8.0

Axial installation



Bore size (mm)	Applicable bolts	Tightening torque(N · m)	L(mm)
φ6	M3×0.5	1.1	4.8
<i>φ</i> 10	M4×0.7	2.5	6.0
φ 16	M4×0.7	2.5	6.0
φ20	M5×0.8	5.1	8.0

The slide table includes two installation surfaces. Please obey the value listed below during installation.

Front end installation



Bore size (mm)	Applicable bolts	Tightening torque(N · m)	L(mm)
φ6	M3×0.5	1.1	5.5
<i>φ</i> 10	M4×0.7	2.5	7.5
<i>φ</i> 16	M4×0.7	2.5	10.0
φ 20	M5×0.8	5.1	11.0

Top installation



Bore size (mm)	Applicable bolts	Tightening torque(N · m)	L(mm)
φ6	M3×0.5	1.1	6.5
<i>φ</i> 10	M4×0.7	2.5	8.0
<i>φ</i> 16	M4×0.7	2.5	9.0
φ20	M5×0.8	5.1	9.5

Installation notice

A CAUTION

Force should be avoided to be added on the cylinder during installation. Large moment of force and impact should not be applied to the cylinder to protect the accuracy of cylinder. Please fix the slide table before loading and unloading. Do not

fix the cylinder main body only before loading and unloading. This may lead to the damage of the guide rod.



Please hold the cylinder main body tight, not the slide table for installation.



■ Gap should be exist between the piston rod and the slide table. Please do not adjust the gap arbitrarily. There should be a 0.13mm gap between the slide table and the hexagon nut.



- Please do not place your hand close to the component during operation as your hand could be pinched by the slide table.
- The malfunction of the cylinder switch may occured if magnetic components (such as steel plate) has been placed closed to the switch. To use the product safely, please separate the magnetic components away from the product with a distance of 10mm at least.



Individual precautions

Installation & Adjustment

The malfunction of the cylinder switch may occure if the cylinder was installed as shown in the figure below. During installation, please make sure that the distance of L is placed between two components.



If the output force of the cylinder has been applied directly onto an object, please make sure that the direction of acting force goes along with the center axis of the piston rod.



Operation & Maintance

A CAUTION

- Apply grease to the pricision guild once 6 months or every 1 million times of operation. (Please contact CKD for recommended grease.)
- Please hold slide table while disassembling the end plate or replacing the packing seal.



Related products

Linear slide cylinder LCR Series

Aluminum table is adopted to reduce weight by 10%
 High rigidity with rigid linear guide and slide table
 More flexible design, such as stopper's symmetrical form, multiple piping and positioning hole

Linear slide cylinder LCG Series

- Industry's widest guide is adopted to achieve the leading super-high rigidity in industry
- The application of slide table and rigid linear guide helps to improve the rigidity of the cylinder.
- More flexible design, such as stopper's symmetrical form, multiple piping and positioning hole

Linear slide cylinder LCX Series

- Thin type design The conventional dimension of the product has been halved from 60 mm to 34 mm which helps to reduce the space.
- For reducing cycle time and energy The half weight of conventional product, enable the moving parts to be lighter
- High precision and high rigidity Individual linear guide type is adopted
- Wide variation of options, such as flexible combination, position locking type, long stroke type, and positioning hole-equipped type

Linear slide cylinder LCM Series

- Most suitable for high precision positioning
- With the size installable in a narrow space, piping flexibility is increased
- Workpiece can be direct installed on the top and front of table
 Corrosion-proof stainless steel is adopted for the cylinder body and slide table
- 4-point contact linear guide is adopted. Load in all directions is supported

Linear slide cylinder LCW Series

- Function of stroke length adjustment has been equiped for standard component.
- The impact at the stroke ends can be reduced by the rubber cushion.
- Two models which are symmetric to each other are avaiable to be purchased. It can be chosen according to the operation method.
- Piping and switch installation direction are on the same side. Piping and wiring became easier and the space can be saved.
- Two switches can be installed onto the same surface. Wires can be arranged clear and tidy.

Catalog No. CB-029SA



Catalog No. CB-029SA



Catalog No. CB-029SA



Catalog No. CB-029SA



Catalog No. CC-1132A



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CKD maintains a policy of ongoing product development and improvement.

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