

Linear slide cylinder Double acting stroke adjustable type (extended)

# LCM-P Series

● Bore size:  $\phi$  4.5,  $\phi$  6,  $\phi$  8



## Specifications

| Descriptions                | LCM-P        |   |          |          |
|-----------------------------|--------------|---|----------|----------|
| Bore size                   | mm           | $\phi$ 4.5  | $\phi$ 6 | $\phi$ 8 |
| Actuation                   |              | Double acting   |          |          |
| Working fluid               |              | Compressed air  |          |          |
| Max. working pressure       | MPa          | 0.7   |          |          |
| Min. working pressure       | MPa          | 0.25  | 0.2      | 0.15     |
| Withstanding pressure       | MPa          | 1.05  |          |          |
| Ambient temperature         | $^{\circ}$ C | 0 to 60   |          |          |
| Port size                   |              | M3  |          |          |
| Stroke tolerance            | mm           | +1.0<br>0   |          |          |
| Working piston speed        | mm/s         | 30 to 500   |          |          |
| Cushion                     |              | None  |          |          |
| Lubrication                 |              | Not required (when lubricating, use turbine oil Class 1 ISOVG 32) |          |          |
| Adjustable stroke range     | mm           | -5 to 0   |          |          |
| Repeatability               | mm           | $\pm$ 0.02  |          |          |
| Allowable energy absorption | J            | Refer to the table on Page 1766.                                  |          |          |

## Specifications with buffer

| Descriptions               | LCM-*.*.*.B |          |
|----------------------------|-------------|----------|
| Buffer stroke              | mm          | 4 (Max.) |
| Buffer section spring load | Setting     | N        |
|                            | Operation   | N        |
|                            |             | 0.3      |
|                            |             | 0.7      |

## Stroke length

| Bore size (mm) | Standard stroke length (mm) | Min. stroke length with switch (mm) |
|----------------|-----------------------------|-------------------------------------|
| $\phi$ 4.5     | 5, 10                       | 5                                   |
| $\phi$ 6       | 5, 10, 15                   |                                     |
| $\phi$ 8       | 5, 10, 15, 20               |                                     |

Note 1: Other than standard stroke length is not available.

SCP\*2  
CMK2  
CMA2  
SCM  
SCG  
SCA2  
SCS  
CKV2  
CA/OV2  
SSD  
CAT  
MDC2  
MVC  
SMD2  
MSD\*  
FC\*  
STK  
ULK\*  
JSK/M2  
JSG  
JSC3  
USSD  
USC  
JSB3  
LMB  
STG  
STS/L  
LCS  
LCG  
LCM  
LCT  
LCY  
STR2  
UCA2  
HCM  
HCA  
SRL2  
SRG  
SRM  
SRT  
MRL2  
MRG2  
SM-25  
CAC3  
UCAC  
RCC2  
MFC  
SHC  
GLC  
Ending

### Switch specifications

| Descriptions    | Proximity 2 wire        |                             | Proximity 3 wire               |                             |
|-----------------|-------------------------|-----------------------------|--------------------------------|-----------------------------|
|                 | F2H/F2V                 | F2YH/F2YV                   | F3H/F3V                        | F3YH/F3YV                   |
| Applications    | Programmable controller |                             | Programmable controller, relay |                             |
| Output method   | -                       |                             | NPN output                     |                             |
| Power voltage   | -                       |                             | 10 to 28 VDC                   |                             |
| Load voltage    | 10 to 30 VDC            | 24 VDC ±10%                 | 30 VDC or less                 |                             |
| Load current    | 5 to 20 mA              |                             | 100 mA or less                 | 50 mA or less               |
| Light           | LED (ON lighting)       | Red/green LED (ON lighting) | LED (ON lighting)              | Red/green LED (ON lighting) |
| Leakage current | 1 mA or less            |                             | 10 µA or less                  |                             |

Note 1: The maximum load current 20mA is applied at 25°C. The current will be lower than 20mA if ambient temperature around switch is higher than 25°C. (5 to 10mA at 60°C)

### Cylinder weight

Unit: g

| Stroke length (mm) | 5                            |                           | 10                           |                           | 15                           |                           | 20                           |                           | Additional weight |                   |
|--------------------|------------------------------|---------------------------|------------------------------|---------------------------|------------------------------|---------------------------|------------------------------|---------------------------|-------------------|-------------------|
|                    | Magnet + Without switch rail | Magnet + With switch rail | Magnet + Without switch rail | Magnet + With switch rail | Magnet + Without switch rail | Magnet + With switch rail | Magnet + Without switch rail | Magnet + With switch rail | With buffer       | Weight per switch |
| φ 4.5              | 49                           | 53                        | 49                           | 53                        | -                            | -                         | -                            | -                         | 3                 | 10                |
| φ 6                | 68                           | 73                        | 68                           | 73                        | 77                           | 83                        | -                            | -                         | 4                 | 10                |
| φ 8                | 97                           | 102                       | 97                           | 102                       | 120                          | 126                       | 120                          | 126                       | 5                 | 10                |

### Theoretical thrust table

Unit: N

| Bore size (mm) | Working pressure MPa |      |      |      |      |      |
|----------------|----------------------|------|------|------|------|------|
|                | 0.2                  | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  |
| φ 4.5          | 2.6                  | 3.8  | 5.1  | 6.4  | 7.7  | 9.0  |
| φ 6            | 4.2                  | 6.4  | 8.5  | 10.6 | 12.7 | 14.8 |
| φ 8            | 8.6                  | 13.0 | 17.3 | 21.6 | 25.9 | 30.2 |

- SCP\*2
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS
- CKV2
- CA/OV2
- SSD
- CAT
- MDC2
- MVC
- SMD2
- MSD\*
- FC\*
- STK
- ULK\*
- JSK/M2
- JSG
- JSC3
- USSD
- USC
- JSB3
- LMB
- STG
- STS/L
- LCS
- LCG
- LCM
- LCT
- LCY
- STR2
- UCA2
- HCM
- HCA
- SRL2
- SRG
- SRM
- SRT
- MRL2
- MRG2
- SM-25
- CAC3
- UCAC
- RCC2
- MFC
- SHC
- GLC
- Ending

Linear slide cylinder  
Combined functions

## How to order

● Without switch

**LCM-P** - **6** - **10** - **R** ————— **J2**

● With switch

**LCM-P** - **6** - **10** - **R** - **F2H** - **R** - **J2**

**A** Bore size

**B** Stroke length

**C** Piping direction

**D** Switch model no.

**E** Switch quantity

**F** Option

| Symbol                  | Descriptions |
|-------------------------|--------------|
| <b>A Bore size (mm)</b> |              |
| 4.5                     | φ 4.5        |
| 6                       | φ 6          |
| 8                       | φ 8          |

| <b>B Stroke length (mm)</b> |    | Bore size |     |     |
|-----------------------------|----|-----------|-----|-----|
|                             |    | φ 4.5     | φ 6 | φ 8 |
| 5                           | 5  | ●         | ●   | ●   |
| 10                          | 10 | ●         | ●   | ●   |
| 15                          | 15 | -         | ●   | ●   |
| 20                          | 20 | -         | -   | ●   |

| <b>C Piping direction</b> |                           |
|---------------------------|---------------------------|
| R                         | Right viewed from rod end |
| L                         | Left viewed from rod end  |

| <b>D Switch model no.</b> |                  |           |                        |           |
|---------------------------|------------------|-----------|------------------------|-----------|
| Axial lead wire           | Radial lead wire | Contact   | Indicator              | Lead wire |
| F2H*                      | F2V*             | Proximity | 1 color indicator type | 2-wire    |
| F3H*                      | F3V*             |           |                        | 3-wire    |
| F2YH*                     | F2YV*            |           | 2 color indicator type | 2-wire    |
| F3YH*                     | F3YV*            |           |                        | 3-wire    |

| <b>*Lead wire length</b> |                |
|--------------------------|----------------|
| Blank                    | 1 m (standard) |
| 3                        | 3 m (option)   |

| <b>E Switch quantity</b> |                 |
|--------------------------|-----------------|
| R                        | One on rod end  |
| H                        | One on head end |
| D                        | Two             |

| <b>F Option</b> |   |
|-----------------|---|
| B               | With buffer                                 |
| M Note 1        | With magnet                                 |
| F1 Note 1, 2    | Magnet + switch rail (switch groove 1 pc.)  |
| F2 Note 1       | Magnet + switch rail (switch groove 2 pcs.) |
| J*              | Dowel pin attached (* ... pin number)       |

### ⚠ Caution for model no. selection

Note 1: Selection not required when designating the switch type.

Note 2: Available only for φ 4.5.

<Example of model number>

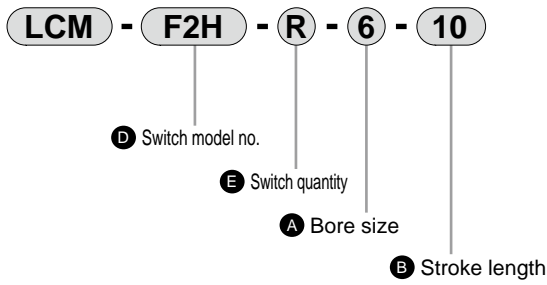
**LCM-P-6-10-R-F2H-R-J2**

Model: Linear slide cylinder, double acting stroke adjustment type (extended)

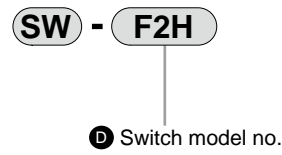
- A** Bore size: φ 6 mm
- B** Stroke length: 10 mm
- C** Piping direction: Right viewed from rod end
- D** Switch model no.: Proximity switch F2H, lead wire 1m
- E** Switch quantity: One on rod end
- F** Option: Dowel pin attached (2 pcs.)

### How to order switch

- Switch body + switch rail + magnet

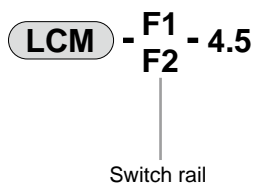


- Only switch body

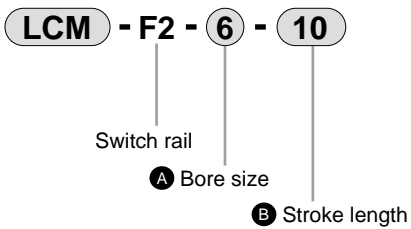


- Only switch rail

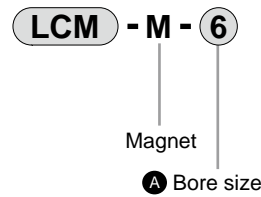
- $\phi$  4.5



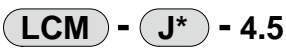
- $\phi$  6,  $\phi$  8



- Only magnet



### How to order dowel pin



|            |
|------------|
| SCP*2      |
| CMK2       |
| CMA2       |
| SCM        |
| SCG        |
| SCA2       |
| SCS        |
| CKV2       |
| CA/OV2     |
| SSD        |
| CAT        |
| MDC2       |
| MVC        |
| SMD2       |
| MSD*       |
| FC*        |
| STK        |
| ULK*       |
| JSK/M2     |
| JSG        |
| JSC3       |
| USSD       |
| USC        |
| JSB3       |
| LMB        |
| STG        |
| STS/L      |
| LCS        |
| LCG        |
| <b>LCM</b> |
| LCT        |
| LCY        |
| STR2       |
| UCA2       |
| HCM        |
| HCA        |
| SRL2       |
| SRG        |
| SRM        |
| SRT        |
| MRL2       |
| MRG2       |
| SM-25      |
| CAC3       |
| UCAC       |
| RCC2       |
| MFC        |
| SHC        |
| GLC        |
| Ending     |

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Combined functions