**Specifications**

<table>
<thead>
<tr>
<th>Descriptions</th>
<th>LCM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bore size mm</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Actuation</td>
<td>Double acting</td>
</tr>
<tr>
<td>Working fluid</td>
<td>Compressed air</td>
</tr>
<tr>
<td>Max. working pressure MPa</td>
<td>0.7</td>
</tr>
<tr>
<td>Min. working pressure MPa</td>
<td>0.2</td>
</tr>
<tr>
<td>Withstanding pressure MPa</td>
<td>1.05</td>
</tr>
<tr>
<td>Min. working pressure MPa</td>
<td>0.15</td>
</tr>
<tr>
<td>Ambient temperature °C</td>
<td>0 to 60</td>
</tr>
<tr>
<td>Port size M3</td>
<td></td>
</tr>
<tr>
<td>Stroke tolerance mm</td>
<td>±1.0</td>
</tr>
<tr>
<td>Working piston speed mm/s</td>
<td>30 to 500</td>
</tr>
<tr>
<td>Cushion</td>
<td>None</td>
</tr>
<tr>
<td>Cushion</td>
<td>Rubber cushioned</td>
</tr>
<tr>
<td>Allowable energy absorption</td>
<td>J</td>
</tr>
<tr>
<td></td>
<td>Refer to the table on Page 1766.</td>
</tr>
</tbody>
</table>

**Specifications with buffer**

<table>
<thead>
<tr>
<th>Descriptions</th>
<th>LCM-<em>-</em>-*-B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buffer stroke mm</td>
<td>4 (Max.)</td>
</tr>
<tr>
<td>Buffer section spring load</td>
<td>When set N</td>
</tr>
<tr>
<td></td>
<td>Operation N</td>
</tr>
<tr>
<td></td>
<td>0.3</td>
</tr>
<tr>
<td></td>
<td>0.7</td>
</tr>
</tbody>
</table>

**Stroke length**

<table>
<thead>
<tr>
<th>Bore size (mm)</th>
<th>Standard stroke length (mm)</th>
<th>Min. stroke length with switch (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.5</td>
<td>5, 10</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>5, 10, 15</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>5, 10, 15, 20</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Proximity 2 wire</th>
<th>Proximity 3 wire</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Applications</strong></td>
<td>Programmable controller</td>
<td>Programmable controller, relay</td>
</tr>
<tr>
<td><strong>Output method</strong></td>
<td>-</td>
<td>NPN output</td>
</tr>
<tr>
<td><strong>Power voltage</strong></td>
<td>-</td>
<td>10 to 28 VDC</td>
</tr>
<tr>
<td><strong>Load voltage</strong></td>
<td>10 to 30 VDC</td>
<td>24 VDC ±10%</td>
</tr>
<tr>
<td><strong>Load current</strong></td>
<td>5 to 20 mA</td>
<td>100 mA or less</td>
</tr>
<tr>
<td><strong>Light</strong></td>
<td>LED (ON lighting)</td>
<td>Red/green LED (ON lighting)</td>
</tr>
<tr>
<td><strong>Leakage current</strong></td>
<td>1 mA or less</td>
<td>10 μA or less</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Bore size (mm)</th>
<th>Stroke length (mm)</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>Additional weight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4.5</strong></td>
<td>With buffer</td>
<td>3</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Without switch</td>
<td>6</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>6</strong></td>
<td>With buffer</td>
<td>4</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Without switch</td>
<td>8</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>8</strong></td>
<td>With buffer</td>
<td>10</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Without switch</td>
<td>15</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Theoretical thrust table

<table>
<thead>
<tr>
<th>Bore size (mm)</th>
<th>Operating direction</th>
<th>Working pressure MPa</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4.5</strong></td>
<td>Push</td>
<td>3.2 4.8 6.4 8.0 9.5 11.1</td>
</tr>
<tr>
<td></td>
<td>Pull</td>
<td>2.6 3.8 5.1 6.4 7.7 9.0</td>
</tr>
<tr>
<td><strong>6</strong></td>
<td>Push</td>
<td>5.6 8.5 11.3 14.1 16.9 19.7</td>
</tr>
<tr>
<td></td>
<td>Pull</td>
<td>4.2 6.4 8.5 10.6 12.7 14.8</td>
</tr>
<tr>
<td><strong>8</strong></td>
<td>Push</td>
<td>10.1 15.1 20.1 25.2 30.2 35.2</td>
</tr>
<tr>
<td></td>
<td>Pull</td>
<td>8.6 13.0 17.3 21.6 25.9 30.2</td>
</tr>
</tbody>
</table>
# LCM Series

## How to order

- **Without switch**
  - LCM - 6 - 10 - R - J2

- **With switch**
  - LCM - 6 - 10 - R - F2H - R - J2

### Symbol Descriptions

- **A** Bore size (mm)
  - 4.5
  - 6
  - 8

- **B** Stroke length (mm)
  - Bore size
    - 4.5
    - 6
    - 8

- **C** Piping direction
  - R: Right viewed from rod end
  - L: Left viewed from rod end

- **D** Switch model no.
  - Axial lead wire
    - F2H*
    - F3H*
  - Radial lead wire
    - F2V*
    - F3V*

- **E** Option
  - B: With buffer
  - M: Note 1 With magnet
  - F1: Note 1 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 4.5.

### Example of model number

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

- **Model**: Linear slide cylinder, double acting
  - **Bore size**: 6 mm
  - **Stroke length**: 10 mm
  - **Piping direction**: Right viewed from rod end
  - **Switch model no.**: Proximity switch F2H, lead wire 1 m
  - **Switch quantity**: One on rod end
  - **Option**: Dowel pin attached (2 pcs.)
How to order switch

- Switch body + switch rail + magnet

LCM - F2H - R - 6 - 10

D. Switch model no.
E. Switch quantity
A. Bore size
B. Stroke length

- Only switch body

SW - F2H

D. Switch model no.

- Only switch rail

LCM - F1 - 4.5

Switch rail

- Only magnet

LCM - M - 6

Magnet

- Only switch rail

LCM - F2 - 6 - 10

Switch rail

A. Bore size
B. Stroke length

How to order dowel pin

LCM - J* - 4.5

Dowel pin

Pin number
Dimensions

LCM-4.5

- With magnet/cylinder switch (piping direction: -R)
- With buffer (-B)
- With magnet/cylinder switch (piping direction: -L)

Note: Refer to Page 1815 for switch installation dimensions.
Dimensions

LCM-6

(Note 1) A plug is assembled on the opposite side of piping port indicated in the model no.

<table>
<thead>
<tr>
<th>Stroke length</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>44</td>
<td>16</td>
<td>16</td>
<td>25</td>
<td>16</td>
<td>29</td>
<td>35</td>
<td>35</td>
<td>54</td>
<td>35</td>
</tr>
<tr>
<td>10</td>
<td>44</td>
<td>16</td>
<td>16</td>
<td>25</td>
<td>16</td>
<td>29</td>
<td>35</td>
<td>35</td>
<td>54</td>
<td>35</td>
</tr>
<tr>
<td>15</td>
<td>49</td>
<td>21</td>
<td>21</td>
<td>30</td>
<td>21</td>
<td>34</td>
<td>40</td>
<td>40</td>
<td>59</td>
<td>40</td>
</tr>
</tbody>
</table>

- With magnet/cylinder switch (piping direction: -R)
- With magnet/cylinder switch (piping direction: -L)
- With buffer (-B)

Note: Refer to page 1815 for switch installation dimensions.
Note: Refer to Page 1815 for switch installation dimensions.
## Internal structure and parts list

**LCM-4.5**

1. Floating bush A: Stainless steel
2. Bolt: Stainless steel
3. End plate: Aluminum alloy
4. O ring: Nitrile rubber
5. Rod cover: Acetar resin
6. Rod packing seal: Nitrile rubber
7. Cylinder body: Stainless steel
8. Slide table: Stainless steel
9. Piston: Stainless steel
10. Piston packing seal: Nitrile rubber
11. O ring: Nitrile rubber
12. Guard: Acetar resin
13. Stop plate: Stainless steel
15. Floating bush B: Stainless steel
16. Cushion rubber: Urethane rubber
17. Hexagon socket head cap bolt: Stainless steel
18. Switch rail: Aluminum alloy
19. Plate: Aluminum alloy
20. Hexagon socket head cap bolt: Stainless steel
21. Magnet: Plastic
22. Dowel pin: Steel

**LCM-4.5 to 8 with magnet/switch rail**

1. Floating bush A: Stainless steel
2. Bolt: Stainless steel
3. End plate: Aluminum alloy
4. O ring: Nitrile rubber
5. Rod cover: Acetar resin
6. Rod packing seal: Nitrile rubber
7. Cylinder body: Stainless steel
8. Slide table: Stainless steel
9. Piston: Stainless steel
10. Piston packing seal: Nitrile rubber
11. O ring: Nitrile rubber
12. Guard: Acetar resin
13. Stop plate: Stainless steel
15. Floating bush B: Stainless steel
16. Cushion rubber: Urethane rubber
17. Hexagon socket head cap bolt: Stainless steel
18. Switch rail: Aluminum alloy
19. Plate: Aluminum alloy
20. Hexagon socket head cap bolt: Stainless steel
21. Magnet: Plastic
22. Dowel pin: Steel

**LCM-6, 8**

1. Bolt: Stainless steel
2. End plate: Aluminum alloy
3. O ring: Nitrile rubber
4. Rod packing seal: Nitrile rubber
5. Cylinder body: Stainless steel
6. Slide table: Stainless steel
7. Piston: Stainless steel
8. Piston packing seal: Nitrile rubber
9. O ring: Nitrile rubber
10. Dowel pin: Stainless steel
11. Cushion rubber: Urethane rubber
12. Hexagon socket head cap bolt: Stainless steel
13. Switch rail: Aluminum alloy
14. Plate: Aluminum alloy
15. Hexagon socket head cap bolt: Stainless steel
16. Magnet: Plastic
17. Dowel pin: Steel
Internal structure and parts list

- LCM-4.5 to 8 with buffer

![Diagram of LCM-4.5 to 8 with buffer]

<table>
<thead>
<tr>
<th>No.</th>
<th>Parts name</th>
<th>Material</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>End plate</td>
<td>Aluminum alloy</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Floating bush A</td>
<td>Stainless steel</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Floating bush B</td>
<td>Stainless steel</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Spring holder</td>
<td>Copper alloy</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Coil spring</td>
<td>Stainless steel</td>
<td></td>
</tr>
</tbody>
</table>