

## ■ Cylinders with Guides



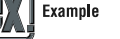
The image displays a Festo 5-Port Solenoid Valve with a Guide, model 5V310-5. The valve is shown in its retracted position, with the plunger rod extended. The main body is a rectangular block with a guide rail on top. The plunger rod is a long, thin cylinder with a threaded end. The valve is shown in a perspective view, highlighting its compact design and the guide mechanism.

RoHS

| Tube I.D.<br>(mm) | A   | B  | B <sub>1</sub> | B <sub>2</sub> | C  | C <sub>1</sub> | C <sub>2</sub> | C <sub>3</sub> | d   | d <sub>1</sub> | D  | E   | F   | G    | H <sub>1</sub> | H <sub>2</sub> | H <sub>3</sub> | H <sub>4</sub> | J <sub>1</sub> | J <sub>2</sub> | K <sub>1</sub> | K <sub>2</sub> | L    | L <sub>1</sub> |
|-------------------|-----|----|----------------|----------------|----|----------------|----------------|----------------|-----|----------------|----|-----|-----|------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------|----------------|
| 12                | 58  | 26 | 18             | 8.5            | 22 | 14             | 6              | 6              | 4.3 | 8              | 6  | 56  | 48  | 41.5 | 4.5            | 9              | 7              | 10             | 11             | 15             | 12             | 12             | 39   | 29             |
| 16                | 64  | 30 | 22             | 10             | 25 | 16             | 7              | 7              | 4.3 | 8              | 8  | 62  | 52  | 46   | 4.5            | 11             | 7              | 10             | 11             | 17             | 11             | 13             | 43   | 31             |
| 20                | 85  | 36 | 26             | 11.5           | 30 | 18             | 8              | 10             | 5.2 | 9.5            | 10 | 72  | 60  | 55   | 5.5            | 13             | 7              | 12             | 12             | 23             | 11             | 14             | 47   | 35             |
| 25                | 96  | 42 | 32             | 13.5           | 38 | 26             | 8              | 8              | 5.2 | 9.5            | 12 | 86  | 70  | 65   | 5.5            | 15             | 9              | 12             | 11             | 23.5           | 12             | 13.5           | 47.5 | 35.5           |
| 32                | 116 | 51 | 38             | 16             | 48 | 30             | 11             | 10             | 6.8 | 11             | 16 | 112 | 96  | 80   | 6.5            | 18             | 11             | 16             | 11.5           | 25             | 12             | 16.5           | 47.5 | 35.5           |
| 50                | 148 | 64 | 46             | 21.5           | 60 | 40             | 12             | 12             | 8.6 | 14             | 20 | 146 | 130 | 110  | 9              | 22             | -              | 20             | 14             | 11             | -              | -              | 72   | 44             |

| Tube I.D.<br>(mm) | X  | Z  | ZA | ZB | L2 Dimensions  |    |      |    |    |      |    |    |                     |    |     |   |    |    |    |    |
|-------------------|----|----|----|----|----------------|----|------|----|----|------|----|----|---------------------|----|-----|---|----|----|----|----|
|                   |    |    |    |    | St Stroke (mm) |    |      |    |    |      |    |    |                     |    |     |   |    |    |    |    |
|                   |    |    |    |    | Plain Bushing  |    |      |    |    |      |    |    | Linear Bushing Type |    |     |   |    |    |    |    |
| 10                | 20 | 25 | 30 | 40 | 50             | 75 | 100  | 10 | 20 | 25   | 30 | 40 | 50                  | 75 | 100 |   |    |    |    |    |
| 12                | -  | -  | -  | -  | 0              | 0  | -    | 0  | 0  | 0    | 18 | 18 | 0                   | 0  | -   | 0 | 14 | 14 | 14 | 14 |
| 16                | -  | -  | -  | -  | 0              | 0  | -    | 0  | 0  | 0    | 21 | 21 | 0                   | 0  | -   | 0 | 21 | 21 | 21 | 21 |
| 20                | -  | -  | -  | -  | -              | 0  | -    | 0  | 0  | 0    | 14 | 14 | -                   | 0  | -   | 0 | 27 | 27 | 27 | 27 |
| 25                | -  | -  | -  | -  | -              | 0  | -    | 0  | 0  | 0    | 14 | 14 | -                   | 2  | -   | 2 | 35 | 35 | 35 | 35 |
| 32                | -  | -  | -  | -  | -              | -  | 20   | -  | -  | 20   | 20 | 20 | -                   | -  | 8   | - | 8  | 42 | 42 | 42 |
| 50                | 66 | 92 | 12 | 9  | -              | -  | 34.5 | -  | -  | 34.5 | -  | 46 | -                   | -  | -   | - | -  | -  | -  | -  |

**Example**



The diagram illustrates a cross-section of a corrugated metal roof. A metal track, labeled 'MGCLF', is installed across the roof. A block is shown on the roof surface, and an arrow indicates a direction of movement or force.

| Part Number                                                       |                   | St Stroke (mm)<br>Selection | Unit Price     |    |    |    |    |    |    |     |       |    |    |    |    |    |    |     |
|-------------------------------------------------------------------|-------------------|-----------------------------|----------------|----|----|----|----|----|----|-----|-------|----|----|----|----|----|----|-----|
| Type                                                              | Tube I.D.<br>(mm) |                             | St Stroke (mm) |    |    |    |    |    |    |     |       |    |    |    |    |    |    |     |
|                                                                   |                   |                             | MGCLF          |    |    |    |    |    |    |     | MGCLB |    |    |    |    |    |    |     |
|                                                                   |                   |                             | 10             | 20 | 25 | 30 | 40 | 50 | 75 | 100 | 10    | 20 | 25 | 30 | 40 | 50 | 75 | 100 |
| (Slide Bearing)<br><b>MGCLF</b><br>Linear Bushing<br><b>MGCLB</b> | 12                | 10 20 30 40 50 75 100       |                |    | -  |    |    |    |    |     |       |    | -  |    |    |    |    |     |
|                                                                   | 16                |                             |                |    | -  |    |    |    |    |     |       |    | -  |    |    |    |    |     |
|                                                                   | 20                | 20 30 40 50 75 100          | -              |    |    |    |    |    |    |     | -     |    | -  |    |    |    |    |     |
|                                                                   | 25                |                             | -              |    | -  |    |    |    |    |     | -     |    | -  |    |    |    |    |     |
|                                                                   | 32                | 25 50 75 100                | -              | -  |    | -  | -  |    |    |     | -     | -  |    | -  | -  |    |    |     |
|                                                                   | *50               | 25 50 100                   | -              | -  |    | -  | -  |    | -  |     | -     | -  | -  | -  | -  | -  | -  | -   |

| Ordering Example | Part Number | St Stroke |
|------------------|-------------|-----------|
|                  | MGCLB16     | 50        |
|                  | MGCLFN12    | 70        |

| Part Number                                                         |                   | Configurable St Strok<br>in 1mm Increment<br>(Spacer Fitted) |
|---------------------------------------------------------------------|-------------------|--------------------------------------------------------------|
| Type                                                                | Tube I.D.<br>(mm) |                                                              |
| (Slide Bearing)<br><b>MGCLFN</b><br>Linear Bushing<br><b>MGCLBN</b> | 12                | 10~100                                                       |
|                                                                     | 16                |                                                              |
|                                                                     | 20                | 20~100                                                       |
|                                                                     | 25                |                                                              |
|                                                                     | 32                | 25~100                                                       |

| Part Number |                   | Unit Price (Body Price) |    |    |    |    |    |    |     |
|-------------|-------------------|-------------------------|----|----|----|----|----|----|-----|
| Type        | Tube I.D.<br>(mm) | St Stroke (mm)          |    |    |    |    |    |    |     |
|             |                   | 10                      | 20 | 25 | 30 | 40 | 50 | 75 | 100 |
| MGCLFN      | 12                |                         |    | -  |    |    |    |    |     |
|             | 16                |                         |    | -  |    |    |    |    |     |
|             | 20                | -                       |    | -  |    |    |    |    |     |
|             | 25                | -                       |    | -  |    |    |    |    |     |
|             | 32                | -                       | -  |    | -  |    |    |    |     |
| MGCLBN      | 12                |                         |    | -  |    |    |    |    |     |
|             | 16                |                         |    | -  |    |    |    |    |     |
|             | 20                | -                       |    | -  |    |    |    |    |     |
|             | 25                | -                       |    | -  |    |    |    |    |     |
|             | 32                | -                       | -  |    | -  | -  |    |    |     |

| Alterations | Cold Weather Resistance Specification                                                                                                                                                             | Heat Resistance Specification                                                                                                                                                                                                       |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Code        | TC                                                                                                                                                                                                | TH                                                                                                                                                                                                                                  |
| Spec.       | Usable in the ambient temperature range from -40°C to 60°C. Changes to low temp. resistant grease and low nitrile rubber gaskets.<br>Low temp. resistant sensors for cylinders are not available. | Usable in the ambient temperature range from 5°C to 120°C. Changes to heat resistant grease and fluororubber gaskets.<br>Heat resistant sensors for cylinders are not available.<br>Change the spacer material to EN AW-6063 Equiv. |

| Tube I.D.<br>(mm) | Standard Stroke Table |    |    |    | St Stroke (mm) |    |    |     |
|-------------------|-----------------------|----|----|----|----------------|----|----|-----|
|                   | 10                    | 20 | 25 | 30 | 40             | 50 | 75 | 100 |
| 12                | •                     | •  | -  | •  | •              | •  | •  | •   |
| 16                | •                     | •  | -  | •  | •              | •  | •  | •   |
| 20                | -                     | •  | -  | •  | •              | •  | •  | •   |
| 25                | -                     | •  | -  | •  | •              | •  | •  | •   |
| 32                | -                     | -  | •  | -  | -              | •  | •  | •   |

**MD 13**  
**MD 14**

Retaining Screw (M2/Left-hand Thread)

2.8

4.7

R2

Position of Highest Sensitivity

24

40

Ø2.6

40

4.7

15

4.5

Retaining Screw (M2/Left-hand Thread)

4.7

8

Position of Highest Sensitivity

40

Ø2.6

2.8

11

RoHS

| Part Number |             |         | Load Voltage    | Load Current                  | Indicator Light         | Sensor Type | Line   | Wire Exit | Unit Price |         |
|-------------|-------------|---------|-----------------|-------------------------------|-------------------------|-------------|--------|-----------|------------|---------|
| Type        | L Selection |         |                 |                               |                         |             |        |           | L1 (1m)    | L3 (3m) |
|             | L1 (1m)     | L3 (3m) | 24VDC<br>110VAC | 24VDC 5~40mA<br>110VAC 5~20mA | LED<br>(Lights when ON) | Contact     | 2-Line | Rear      |            |         |
| MD13        |             |         | 28VDC or Less   | 0.1~40mA                      |                         | No Contact  | 3-Line |           |            |         |
| MD14        |             |         | 10~28VDC        | 5~20mA                        |                         | No Contact  | 2-Line |           |            |         |
| ME33        |             |         | VDC28 or Less   | 0.1~40mA                      |                         | No Contact  | 3-Line | Top       |            |         |
| ME34        |             |         | 10~28VDC        | 5~20mA                        |                         | No Contact  | 2-Line |           |            |         |

Operating Temp. Range : 0 ~ 60°C  
For detailed specifications of the Sensors, see **P.1484**.

|                                                                                       |                  |             |
|---------------------------------------------------------------------------------------|------------------|-------------|
|  | Ordering Example | Part Number |
|                                                                                       |                  | MD14L1      |