

# MECHANICAL VALVES

## Roller-cam Type

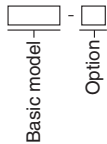
### Symbols

| Roller-cam                   |                                       |                         |                                 | One way roller-cam      |                       |                         |                       |
|------------------------------|---------------------------------------|-------------------------|---------------------------------|-------------------------|-----------------------|-------------------------|-----------------------|
| 2-port                       |                                       | 3-port                  |                                 | 2-port                  |                       | 3-port                  |                       |
| NC<br>(Normally closed)      | NO<br>(Normally open)                 | NC<br>(Normally closed) | NO<br>(Normally open)           | NC<br>(Normally closed) | NO<br>(Normally open) | NC<br>(Normally closed) | NO<br>(Normally open) |
|                              |                                       |                         |                                 |                         |                       |                         |                       |
| 125MC-2<br>250C-2<br>2503C-2 | 125MC-2-11<br>250C-2-11<br>2503C-2-11 | 125MC<br>250C<br>2503C  | 125MC-11<br>250C-11<br>2503C-11 | 125MOC-2                | 125MOC-2-11           | 125MOC                  | 125MOC-11             |

### Specifications

| Item   | Basic model                       | 125MC                              | 125MOC                            | 250C                      | 2503C |
|--|-----------------------------------|------------------------------------|-----------------------------------|---------------------------|-------|
| Operation type                                     |                                   | Roller-cam (Steel roller)          | One way roller-cam (Steel roller) | Roller-cam (Nylon roller) |       |
| Port size  |                                   | Rc1/8                              | Rc1/4                             | Rc3/8                     |       |
| Media  |                                   | Air                                |                                   |                           |       |
| Operating pressure range                           | MPa [kgf/cm <sup>2</sup> ] [psi.] | 0~0.9 [0~9.2] [0~131]              |                                   |                           |       |
| Proof pressure                                     | MPa [kgf/cm <sup>2</sup> ] [psi.] | 1.35 [13.8] [196]                  |                                   |                           |       |
| Operating temperature range (atmosphere and media) | °C [°F]                           | 5~60 [41~140]                      |                                   |                           |       |
| Effective area                                     | mm <sup>2</sup>                   | 5.5                                | 15                                |                           |       |
| Flow coefficient                                   | Cv                                | 0.27                               | 0.76                              |                           |       |
| Valve stroke                                       | mm [in.]                          | 0.8 [0.031]                        | 1.6 [0.063]                       |                           |       |
| Lubrication  |                                   | Not required                       |                                   |                           |       |
| Mass   | kg [lb.]                          | 0.15 [0.33]                        | 0.30 [0.66]                       | 0.35 [0.77]               |       |
| Options  |                                   | 2-port .....2<br>Normally open -11 |                                   |                           |       |
| Order codes  |                                   |                                    |                                   |                           |       |

### Order Codes

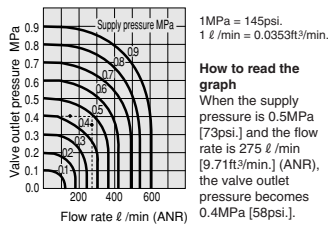


| Basic model |                          | Option |                        |
|-------------|--------------------------|--------|------------------------|
| Basic model | Specifications           | Code   | Specifications         |
| 125MC       | Rc1/8 Roller-cam         | Blank  | 3-port Normally closed |
| 125MOC      | Rc1/8 One way roller-cam | 2      | 2-port                 |
| 250C        | Rc1/4 Roller-cam         | 11     | Normally open          |
| 2503C       | Rc3/8 Roller-cam         |        |                        |

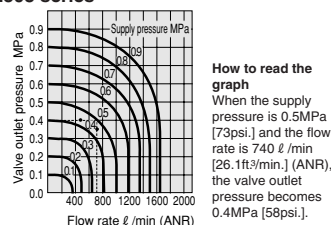
Examples:  
125MC-2-11  
2503C

### Flow Rate

#### 125 series



#### 250 series 2503 series

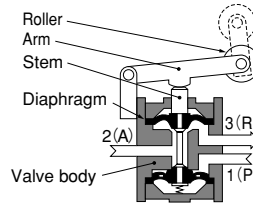


### Roller Pushing Down Force

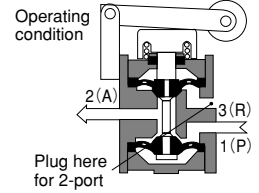
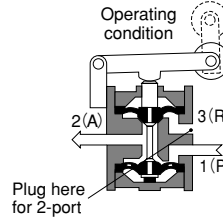
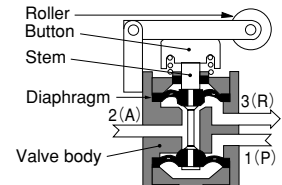
|        |                          | N [lbf.]    |             |             |             |              |
|--------|--------------------------|-------------|-------------|-------------|-------------|--------------|
| Model  | Main pressure MPa [psi.] | 0 [0]       | 0.2 [29]    | 0.4 [58]    | 0.6 [87]    | 0.8 [116]    |
| 125MC  | Normally closed          | 12.8 [2.88] | 15.7 [3.53] | 19.6 [4.41] | 24.5 [5.51] | 29.4 [6.61]  |
|        | Normally open            |             | 14.7 [3.30] | 17.7 [3.98] | 22.6 [5.08] | 26.5 [5.96]  |
| 125MOC | Normally closed          | 10.8 [2.43] | 13.7 [3.08] | 18.6 [4.18] | 22.6 [5.08] | 26.5 [5.96]  |
|        | Normally open            |             | 12.8 [2.88] | 15.7 [3.53] | 19.6 [4.41] | 23.5 [5.28]  |
| 250C   | Normally closed          | 12.8 [2.88] | 19.6 [4.41] | 28.4 [6.38] | 38.3 [8.61] | 54.9 [12.34] |
| 2503C  | Normally open            |             |             | 24.5 [5.51] | 30.4 [6.83] | 39.2 [8.81]  |

### Inner Construction, Major Parts and Materials

#### 125 series Normal condition



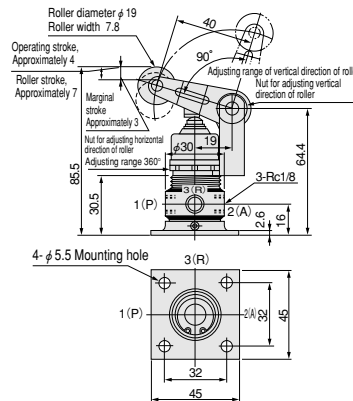
#### 250 series 2503 series Normal condition



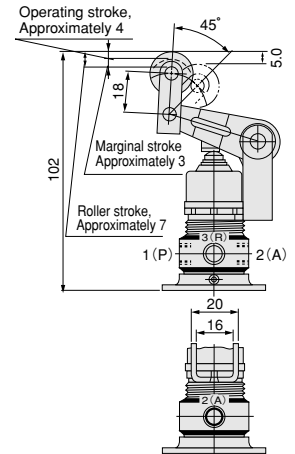
| Parts     | Materials                                    |
|-----------|--|
| Body      | Aluminum alloy (anodized)                    |
| Stem      | Brass  |
| Diaphragm | Synthetic rubber                             |
| Roller    | 125 series: Steel<br>250, 2503 series: Nylon |

### Dimensions (mm)

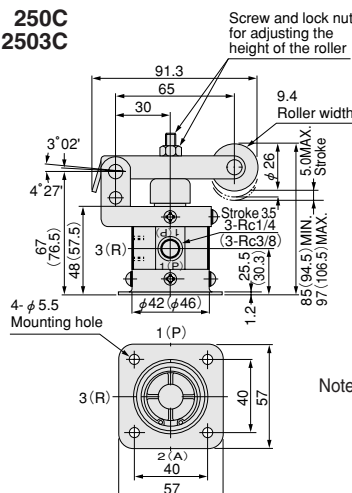
#### 125MC



#### 125MOC



#### 250C 2503C



Note: Dimensions not specified are the same as for the 125MC.

Notes: 1. Dimensions in parentheses ( ) are for the 2503C.  
2. For the normally open type, the exhaust port 3(R) is on the opposite side.