# **AITTAC**

### M5 Series



#### Symbol





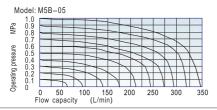


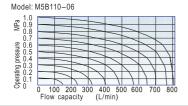


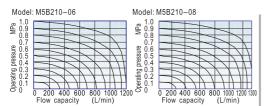
#### Product feature

- 1. Exhaust outlet locates over the body, which is convenient to install muffler to decrease noise and pollution.
- 2. The external force required by direction-change of series of M5B, M5R and M5L is provided by external mechanism, which can be used for position test
- or [stroke switch] limit switch.
  3. M5C,M5D,M5Y,M5PF,M5PM,M5PP,M5PL and M5HS are operated manually, owning control joints with several structure forms and suitable for application under different conditions.
- 4. It is in sliding column structure that the control force is not influenced by working pressure (that is, there is no back pressure effect); internal circle is sealed with good tightness and the direction-change is sensitive.
- 5. Lubricant is not necessary.
- 6. Multi-mounting makes it convenient to install and apply.
  7. The control joints of series of M5C,M5D,M5Y,M5R and M5L are made of metal which has longer service life and more reliable and steady performance

#### Flow chart







#### Specification

| Model  |           | S5B   | S5C   | S5D | S5R | S5L       | S5Y        | S5PM       | S5PP | S5PF | S5PL | S5HS |
|--|-----------|---|---|-----|-----|-----------|------------|------------|------|------|------|------|
| Fluid  |           |   | Air (to be filtered by 40 μ m filter element) |     |     |           |            |            |      |      |      |      |
| Operati  | ng        |   |   |     | Ex  | ternal co | ntrol dire | ect acting | type |      |      |      |
| Port siz   | e①        |   |   |     |     | 05:M5;    | 06:1/8'    | "; 08:1/4  | 11   |      |      |      |
| Orifice  | Mini type |   |   |     |     | 05:2.5    | mm² (C     | 0v = 0.14  | 1    |      |      |      |
| size   | 110       |   | 06:8.0mm <sup>2</sup> (Cv=0.45)               |     |     |           |            |            |      |      |      |      |
| Size   | 210       | 06:9.0mm <sup>2</sup> (Cv=0.50); 08:12.0mm <sup>2</sup> (Cv=0.67) |   |     |     |           |            |            |      |      |      |      |
| Valve type   |           |   | 5/2 Way                                       |     |     |           |            |            |      |      |      |      |
| Lubrica  | tion②     |   | Not required                                  |     |     |           |            |            |      |      |      |      |
| Pressur  | e range   |   | 0~1.0MPa(0~145psi)                            |     |     |           |            |            |      |      |      |      |
| Proof pressure                                     |           |   | 1.5MPa(215psi)                                |     |     |           |            |            |      |      |      |      |
| Temperature  |           |   | –20~70 ℃                                      |     |     |           |            |            |      |      |      |      |
| Material body                                      |           |   | Aluminum alloy                                |     |     |           |            |            |      |      |      |      |
| 1) PT thread NPT thread and G thread are available |           |   |   |     |     |           |            |            |      |      |      |      |

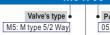


**M5** 

- Once lubricated air is used, continue with same medium to optimise valve life span. It is suggested to use ISO VG32 lubricant or the oil with the same grade.

#### Ordering code M5 PM 210 06 R P Common type: Valve's type • Thread type M5: M type 5/2 Way P: PT T: NPT Model G: G B: Basic type C: Long handle type D: Short handle type **Button color** Model Button color PL R: Red R: Red R: Red Y: Lever typer R: Roller type L: Roller with free return type PL: Latching type PP PF PP, PF PM, HS B: Black PP: Protruding type PF: Flat type Others Not code PM: Mushroom type Port size Code Port size 100 Series 06: 1/8" 200 Series 08: 1/4" HS: Selector type

# 210: 200 Series single control Mini type:



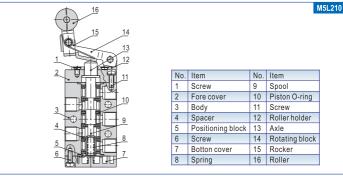
110: 100 Series single control

Code



Model B: Basic type R: Roller type L: Roller with free return type

#### Inner structure



## Reversal stroke

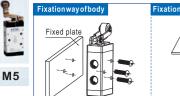
| U | n | i | t | : | n |
|---|---|---|---|---|---|

|      |              | Con           | Mini type |              |                       |       |              |               |
|------|--------------|---------------|-----------|--------------|-----------------------|-------|--------------|---------------|
| Type | Spool stroke | Button stroke | Туре      | Spool stroke | Roller(handle) stroke | Туре  | Spool stroke | Roller stroke |
| M5B  | 2.0~3.3      | _             | M5R       | 2.0~3.0      | 4.6~6.8               | M5B05 | 2.0~3.3      | _             |
| M5PF | 2.0~3.3      | 3.8~5.1       | M5L       | 2.0~3.0      | 5.0~7.8               | M5R05 | 2.0~3.0      | 6.0~8.5       |
| M5PP | 2.0~3.3      | 3.8~5.1       | M5C       | 2.0~3.0      | 11.0~16.0             | M5L05 | 2.0~3.0      | 7.0~10.0      |
| M5PM | 2.0~3.3      | 3.8~5.1       | M5D       | 2.0~3.0      | 5.5~8.0               |       |              |               |
| M5PL | 2.0~3.3      | 5.9~7.2       |           |              |                       |       |              |               |
| M5HS | 2.0~3.3      | 5.1~6.4       |           |              |                       |       |              |               |

# AITTAL

# M5 Series

### Assemble chart





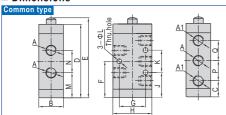
#### Attentions 🛕

- Attentions

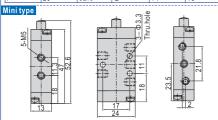
  1)The control set is made of engineering plastic which only allows manual operation and switching valves through metal impact is forbidden.

  2)The series of M5B, M5C, M5D, M5PM, M5PF and M5PP get the function of automatic restoration. The hand valves of M5Y, M5HS and M5PL are in the type of manual restoration. M5PL will be restored by turning the revolve button after being pressed into orientation.
  3)Pay attention to the reversing stroke. The reversing stroke can not surpass its stroke stipulated in stroke control table when the direction-change of the valve is forced by any external forces, otherwise it will cause the damage of the valve.
  4)The M5L can only switch the valve in single direction (impact from right to left). The impact from the other direction is invalid (from left to right).
  5) Control joint combination can be ordered individually, Please refer to the table on the right for order details.

# Dimensions



|           |         |         | <del></del> | -1     |        |
|-----------|---------|---------|-------------|--------|--------|
| Item\Type | M5B110  | M5B210  | Item\Type   | M5B110 | M5B210 |
| Α         | 06:1/8" | 06:1/8" | G           | 18     | 23.5   |
| A         | 06:1/8  | 08:1/4" | Н           | 27     | 35     |
| A1        | 06:1/8" | 06:1/8" | J           | 22     | 22.5   |
| AI        | 00.1/0  | 06:1/8" | K           | 14     | 20     |
| В         | 18      | 22      | L           | 3.2    | 4.3    |
| С         | 15      | 14.5    | M           | 21     | 22.5   |
| D         | 57.5    | 66      | N           | 16     | 20     |
| E         | 63      | 71.8    | Р           | 14     | 18     |
| F         | 29      | 32.5    | Q           | 14     | 18     |



### Mini control set dimensions

| with control set dimensions |               |                                    |               |  |  |  |  |
|-----------------------------|---------------|------------------------------------|---------------|--|--|--|--|
| Model                       | M3R05 M       | lodel                              | M3L05 1       | Model  |  |  |  |
| How to                      | Ordering code |                                    | Ordering code | Type   |  |  |  |
| order                       |               | M3R05 Roller type control set      | M3L05-P14A    | M3L05 Roller with free return type control set |  |  |  |
| Applicable<br>products      | M5R05         |                                    | M5L05         |  |  |  |  |
| Dimensions                  | 6.0~8.5       | © 12<br>© 12<br>24<br>25.3<br>31.8 | 88.5          | Φ 12<br>Φ 12<br>24<br>86<br>25<br>33           |  |  |  |

### Control set Dimensions

| Model               | C Long handle | type                                | D Short handle |                                      | Y Lever type  |                               |
|---------------------|---------------|-------------------------------------|----------------|--------------------------------------|---------------|-------------------------------|
| How to              | Ordering code | Туре                                | Ordering code  | Type                                 | Ordering code | Туре                          |
| order               | M3C210-P13A   | M3C210 Long handle type control set | M3D210-P13A    | M3D210 Short handle type control set | M3Y210-P13A   | M3Y210 Lever type control set |
| Applicable products | M5C110, M5C   | 210                                 | M5D110, M5D    | 210                                  | M5Y110, M5Y   | ′210                          |
| Dimensions          | 9             | <u> </u>                            | 16             | 44.3                                 | 16.5          | 36.7                          |
| 3,110,10,10,10      | 30.5          | 80.7                                |                | 30.5                                 |               | 33.5                          |

| Model                  | R Roller type                              | L Roller with free return type                              |
|------------------------|--|---|
| How to                 | Ordering code Type                         | Ordering code Type  |
| order                  | M3R210-P14A M3R210 Roller type control set | M3L210-P14A M3L210 Roller with free return type control set |
| Applicable<br>products | M5R110, M5R210                             | M5L110, M5L210  |
| Dimension              | <u>015</u>                                 | © 15  |

|                     |                  |   | 41.5          |  |                  |                                      |  |
|---------------------|------------------|---|---------------|--|------------------|--------------------------------------|--|
| Model               | PP Protruding    | g type  | PM Mushroor   | n type                                 | PL Latching      | type (only red)                      |  |
|                     | Ordering code    | Туре  | Ordering code | Type                                   | Ordering code    | Туре                                 |  |
| How to              | S3PP05-P11A      | S3PP protruding type control set (Green)  | S3PM05-P11A   | S3PM mushroom type control set (Green) | S3PL05-P12A      | S3PL Latching type control set (Red) |  |
| order               | S3PP05-P12A      | S3PP protruding type control set (Red)  | S3PM05-P12A   | S3PM mushroom type control set (Red)   |                  |                                      |  |
|                     | S3PP05-P13A      | S3PP protruding type control set (Black)  | S3PM05-P13A   | S3PM mushroom type control set (Black) |                  |                                      |  |
| Applicable products | M5PP110, M5PP210 |   | M5PM110, M    | 5PM210                                 | M5PL110, M5PL210 |                                      |  |
|                     | 99               | 36  | 30            | 36                                     | 30               | 936<br>Ф36                           |  |
| Dimensions          | 9                | D28.5<br>21 × 22T × 2 | 9             | 936<br>W22×1.25<br>53.7                | 9                | M22×1.25<br>51.5~58.5                |  |

| Model                  | PF Flat type  |   | HS Selector   | type  |
|------------------------|---------------|---|---------------|---|
|                        | Ordering code | Туре  | Ordering code | Туре  |
| How to                 | S3PF05-P11A   | S3PF flat type control set (Green)  |               | S3HS selector type control set (Green)                    |
| order                  |               | S3PF flat type control set (Red)  |               | S3HS selector type control set (Red)                      |
|                        | S3PF05-P13A   | S3PF flat type control set (Black)  | S3HS05-P13A   | S3HS selector type control set (Black)                    |
| Applicable<br>products | M5PF110, M    | 5PF210  | M5HS110, M    | 5HS210  |
| Dimensions             | 9             | Φ28.5<br>Φ27.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ27<br>Σ7.Σ2 | 30            | Φ28.5<br>Φ28.5<br>ΣΕΙ ΣΕΙ ΣΕΙ ΣΕΙ ΣΕΙ ΣΕΙ ΣΕΙ ΣΕΙ ΣΕΙ ΣΕΙ |

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