

# ISO Standard air valve(5/2, 5/3 way)

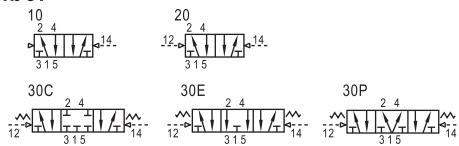


EAV200, 300, 400, 600 Series



EAV

### Symbol



### Product feature

1. Succinct appearance and compact conformation.
2. The installation size conforms to ISO 5599/1 standard.
3. Because of the special seals, the feature are large flow rate and long lifetime.
4. External pilot, can be used without electrical.
5. You need install the valve together with the sub-base. There are individual and manifold sub-base.
6. There are various connection and installation method for manifold. It is easy to use.
7. The manifold of 200\300\400 series have the function of exhaust throttling, so no need to connect another throttle valve.
8. Because of be used external pilot, the working pressure of double air control valve can be zero or vacuum.

### Ordering code of valve

**EAV 2 10**

**Model**  
ESV: ISO standard air valve

**Code**  
2: 200 Series  
3: 300 Series  
4: 400 Series  
6: 600 Series

**Valve type**

- 10: Single air control 5/2 way
- 20: Double air control 5/2 way
- 30C: Double air control 5/2 way closed center
- 30E: Double air control 5/2 way exhaust center
- 30E: Double air control 5/2 way pressure center

### Ordering code of cover plate

**P-EAV210 R1**

**Accessories code**  
P: Unit accessories

**Accessories type**  
R1: Cover plate

**Adapt production**

Note: 600 series have not cover plate.

### Specification

| Item                             | Specification                                 |                          |            |            |
|----------------------------------|---|--------------------------|------------|------------|
|                                  | 200 Series                                    | 300 Series               | 400 Series | 600 Series |
| Model                            | 200 Series                                    | 300 Series               | 400 Series | 600 Series |
| Fluid                            | Air (to be filtered by 40 μ m filter element) |                          |            |            |
| Acting                           | Extend pilot                                  |                          |            |            |
| Lubrication ①                    | Not required                                  |                          |            |            |
| Operating Pressure               | Single air control                            | 0.2~1.0MPa(29~145psi)    |            |            |
|                                  | Double air control                            | -0.09~1.0MPa(-13~145psi) |            |            |
| Control pressure(external pilot) | 0.2~1.0MPa(29~145psi)                         |                          |            |            |
| Proof pressure                   | 1.5MPa(215psi)                                |                          |            |            |
| Temperature                      | -20~70°C                                      |                          |            |            |
| Port size(manifold) ②            | 1/4"  | 3/8"                     | 1/2"       | 3/4"       |
| Port size(end plate)             | 3/8"  | 1/2"                     | 3/4"       | 1"         |
| Installation size                | ISO 5599-1 standard                           |                          |            |            |

Note ①: Once lubricated air is used, continue with same medium to optimise valve life span. Lubricants like ISO VG32 or equivalent are recommended.

②: PT thread and G thread are available.

### Ordering code of manifold

**ESV 20 1M G**

**Model**  
EAV: ISO standard solenoid valve

**Code**  
2: 200 Series  
3: 300 Series  
4: 400 Series  
6: 600 Series

**Manifold type**

- 1M: Individual sub-base
- 2M: Manifold sub-base
- 3M: End flate kit
- 4M: Connecting black

**Port position type**

- 1M: Blank: Side port  
B: Bottom Port
- 2M: Blank: Left side port  
R: Right side port  
B: Bottom Port
- 4M: Blank: Left side port

**External pilot port type**

- 1M: Blank: Individual pilot port
- 2M: Blank: Individual pilot port  
W: Centralized pilot port

**Thread type**

- P: PT
- G: G

Note:1. For the same model, the port size of the end-plate is bigger than the sub-base ( For example ESV202M, the port size of sub-base is 1/4" , and the port size of end plate is 3/8").

2. Only individual pilot port is available for individual sub-base.

3. The manifold sub-base must be used with end plate kit, individual pilot port and centralized pilot port can be mixed.

4. 600 series individual sub-base only has side port, 600 series manifold sub-base only has individual pilot port and bottom port.

5. Only 600 series have connecting black.

### Ordering code of accessories

**P-ESV200M R2**

**Accessories code**  
P: Unit accessories

**Accessories type**  
R2: Blanking plate

**Code**  
ESV200M: 200 Series manifold  
ESV300M: 300 Series manifold  
ESV400M: 400 Series manifold  
ESV600M: 600 Series manifold



# ISO Standard air valve(5/2, 5/3 way)



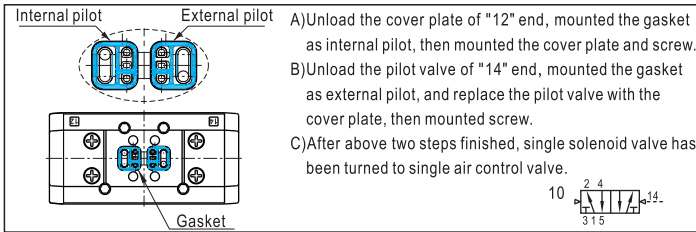
## EAV200, 300, 400, 600 Series

### ■ Installation and operation(For 200, 300, 400 series)

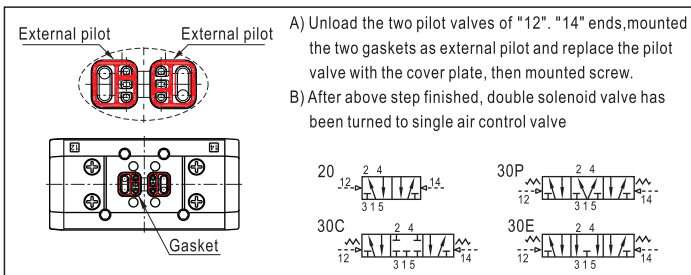
#### 1. How to turn ESV series solenoid valve to EAV series air control valve

1.1. To turn ESV series solenoid valve (except 600 series) to EAV series air control valve, you must order cover plate first(the ordering code is P-EAV210-R1),then replace the coil unit and the pilot body with cover plate. the different gasket mounting can create different EAV air valve type as shown below.

1.2. Single solenoid valve turn to single air control valve:



1.3. Double solenoid valve turn to double air control valve



#### 2. The classification and selection of the parallel manifold sub-base

2.1. According to the direction of pilot air supply, we can divide the sub-base manifold into two types: the individual pilot and centralized pilot.

2.2. If you select the individual pilot, the fitting must be connected to the individual pilot ports.

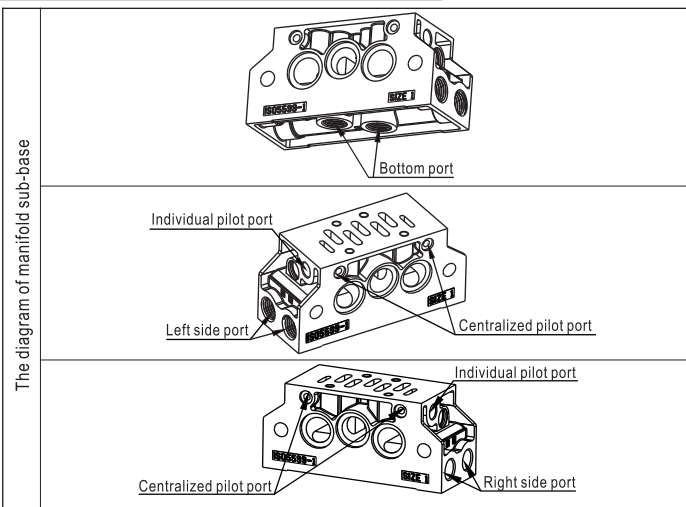
If you select the centralized pilot type, the fitting must be connected to the centralized pilot ports.

2.3. If you use parallel manifold, all of the manifold must be used the same pilot type: such as, all of them are the individual pilot type, or all of them are the centralized pilot type.

\*Note: Only when you use the external pilot type, you can select the individual pilot or centralized pilot.

When you use the internal pilot type, the pilot ports on the manifold are ineffective.

#### 3. The position and specification of the parallel manifold sub-base



Port status of different manifold sub-base

| Port name working condition Ordering code | Left side port | Right side port | Bottom port | Centralized pilot port | Individual pilot port |
|---|----------------|-----------------|-------------|------------------------|-----------------------|
| ESV202MG                                  | Use            | Unused          | Unused      | Unused                 | Use                   |
| ESV202MGR                                 | Unused         | Use             | Unused      | Unused                 | Use                   |
| ESV202MGB                                 | Unused         | Unused          | Use         | Unused                 | Use                   |
| ESV202MGW                                 | Use            | Unused          | Unused      | Use                    | Unused                |
| ESV202MGWR                                | Unused         | Use             | Unused      | Use                    | Unused                |
| ESV202MGWB                                | Unused         | Unused          | Use         | Use                    | Unused                |

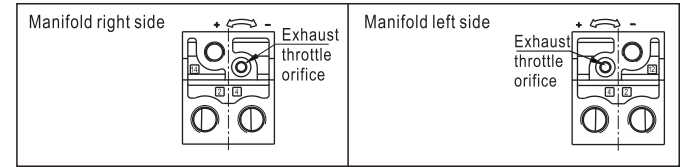
Note: Please seal the bottom port by plug, when it is unused.  
 The above list is an example of 200M series' ordering code, the other series is follow the same pattern, only need to change the series code.

#### 4. Exhaust throttle function

4.1. The manifold has exhaust throttle function, the below picture shows the position of the exhaust throttle orifices on each side.

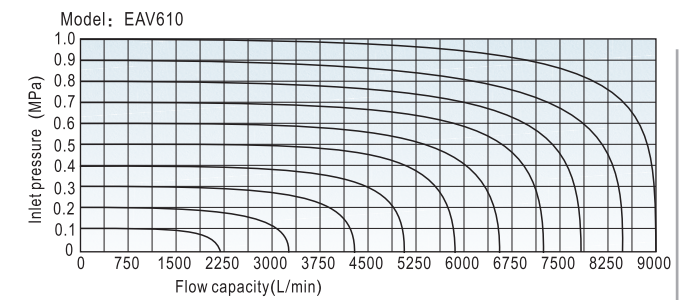
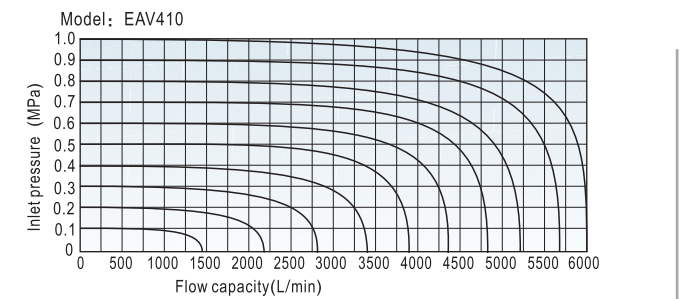
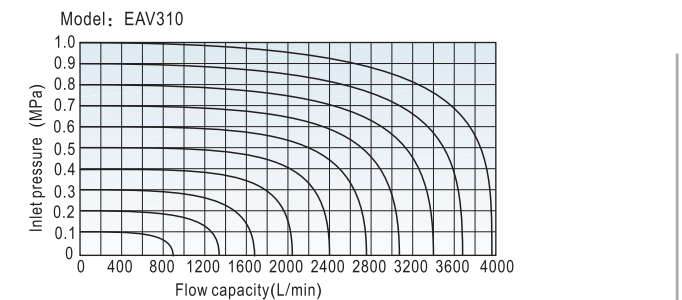
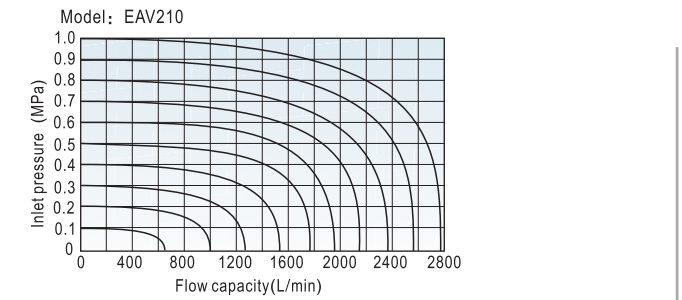
4.2. Use allen key to adjust the screw.

4.3. Rotate the screw clockwise to reduce the exhaust orifice, rotate the screw counter-clockwise to enlarge the exhaust orifice.



EAV

### ■ Flow chart

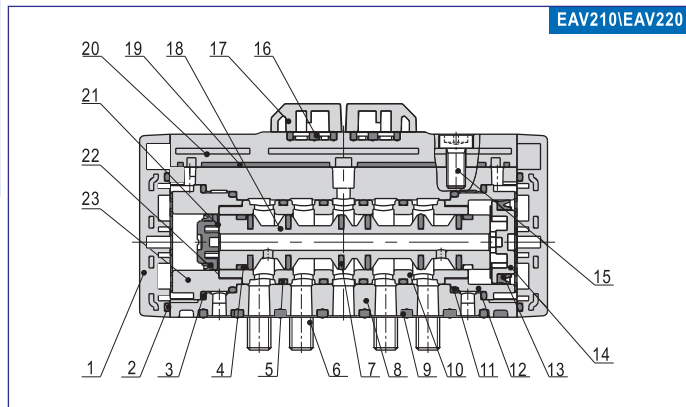


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EAV200, 300, 400, 600 Series

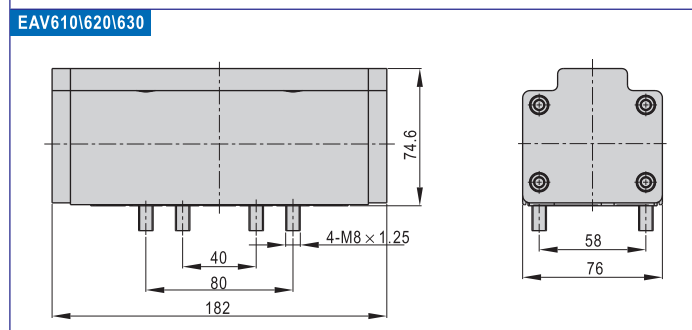
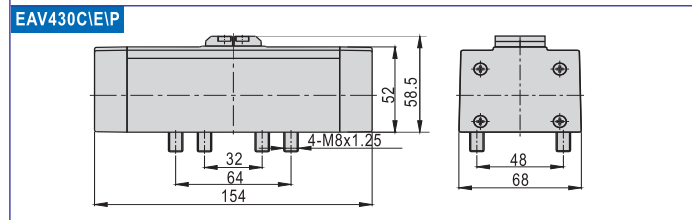
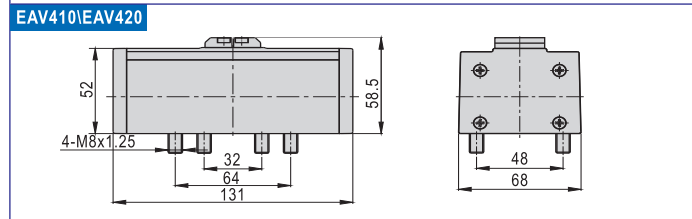
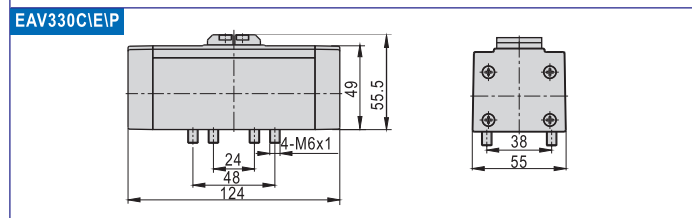
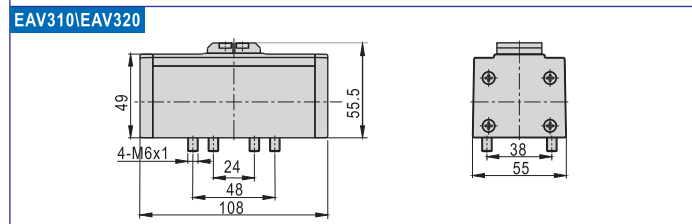
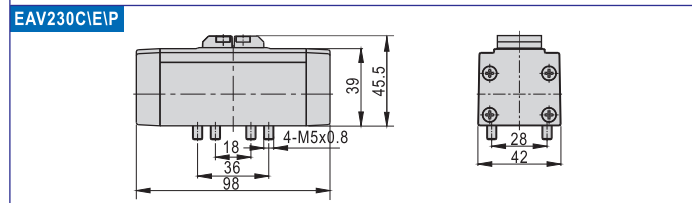
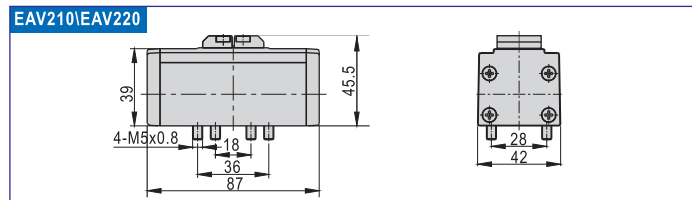
## Inner structure



EAV210\EAV220

| NO. | Item         | NO. | Item              | NO. | Item                |
|-----|--------------|-----|-------------------|-----|---------------------|
| 1   | Bottom cover | 9   | Gasket            | 17  | Cover plate         |
| 2   | O-ring       | 10  | Spacer            | 18  | Spool               |
| 3   | O-ring       | 11  | O-ring            | 19  | Upper cover gasket  |
| 4   | Wear ring    | 12  | Big piston sheath | 20  | Upper cover         |
| 5   | O-ring       | 13  | Big piston O-ring | 21  | Small piston        |
| 6   | Screw        | 14  | Big piston        | 22  | Small piston O-ring |
| 7   | O-ring       | 15  | Screw             | 23  | Small piston sheath |
| 8   | Body         | 16  | Gasket            |     |                     |

## Dimensions of valves



# ISO Standard air valve(5/2, 5/3 way)



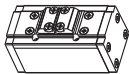
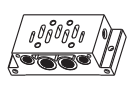
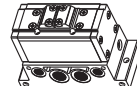
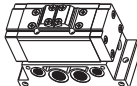
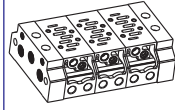
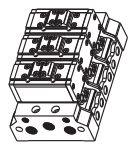
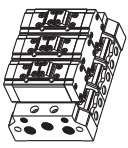
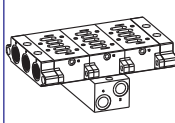
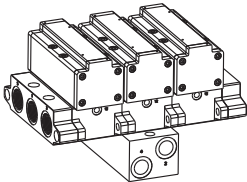
## EAV200, 300, 400, 600 Series

### ■ Dimensions of manifold

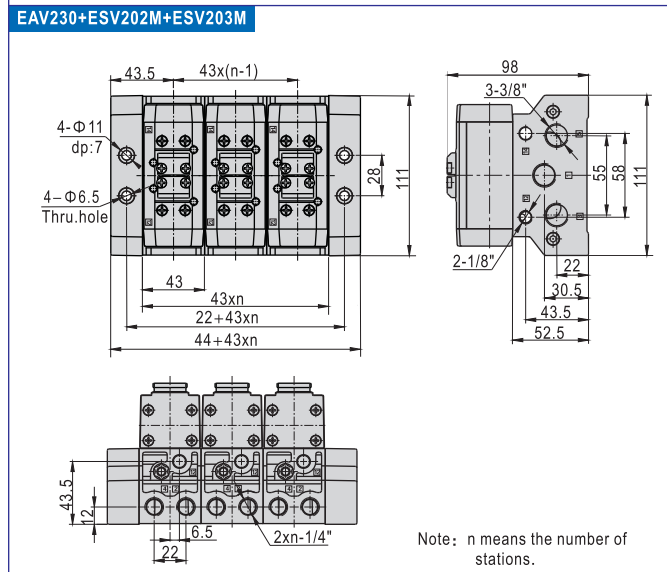
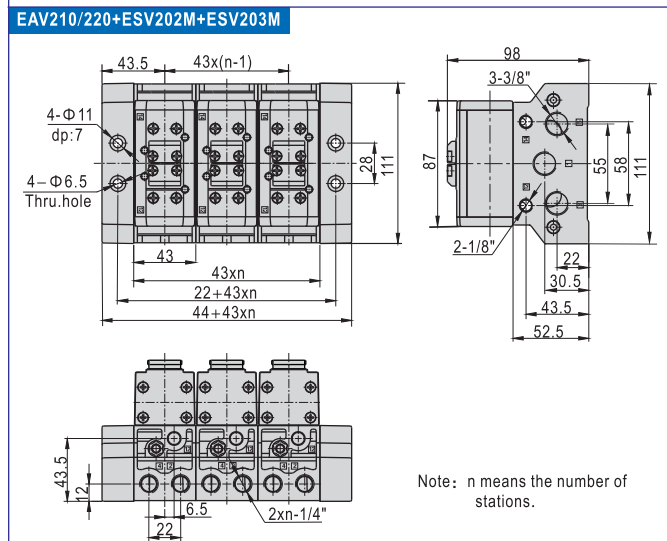
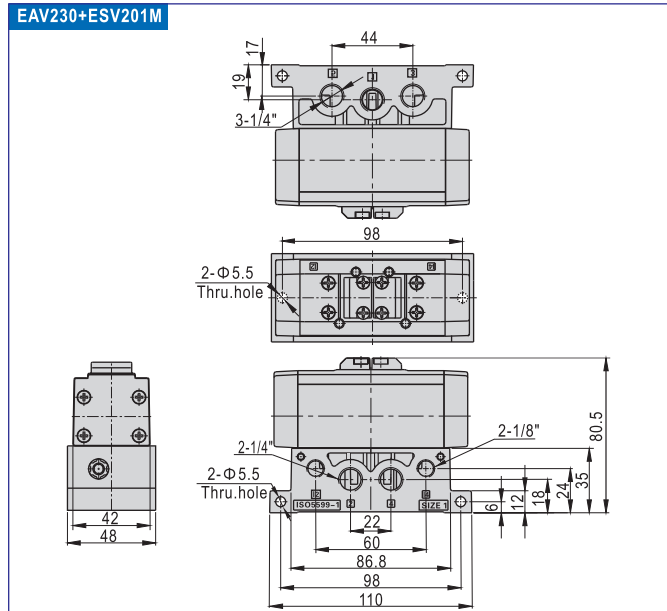
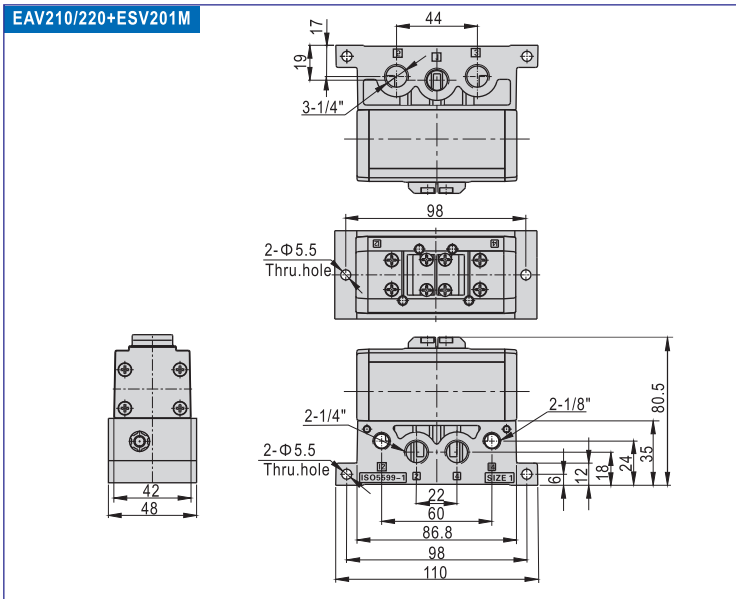
1. The dimensions of manifold are the same as ESV series's, please refer to page 41, 43, 45, 47.

### ■ Valves used with manifolds and their dimensions

1. EAV series valve must be used with the manifolds, the details are below:

| Manifolds   | Valves  |  |
|---|---|--|
|   | EAV210\EAV220<br>EAV310\EAV320<br>EAV410\EAV420<br>EAV610\EAV620                    |   |
| ESV201M   | EAV210\EAV220+ESV201M   | EAV230+ESV201M   |
| ESV301M   | EAV310\EAV320+ESV301M   | EAV330+ESV301M   |
| ESV401M   | EAV410\EAV420+ESV401M   | EAV430+ESV401M   |
| ESV601M   | EAV610\EAV620+ESV601M   | EAV630+ESV601M   |
|    |    |   |
| ESV202M+ESV203M   | EAV210\EAV220+ESV202M+ESV203M   | EAV230+ESV202M+ESV203M   |
| ESV302M+ESV303M   | EAV310\EAV320+ESV302M+ESV303M   | EAV330+ESV302M+ESV303M   |
| ESV402M+ESV403M   | EAV410\EAV420+ESV402M+ESV403M   | EAV430+ESV402M+ESV403M   |
|   |   |  |
| ESV602M+ESV603M<br>+ESV604M   | EAV610\EAV620<br>+ESV602M+ESV603M+ESV604M   | EAV630+ESV602M<br>+ESV603M+ESV604M   |
|  |  |  |

2. The dimensions of valve with manifolds

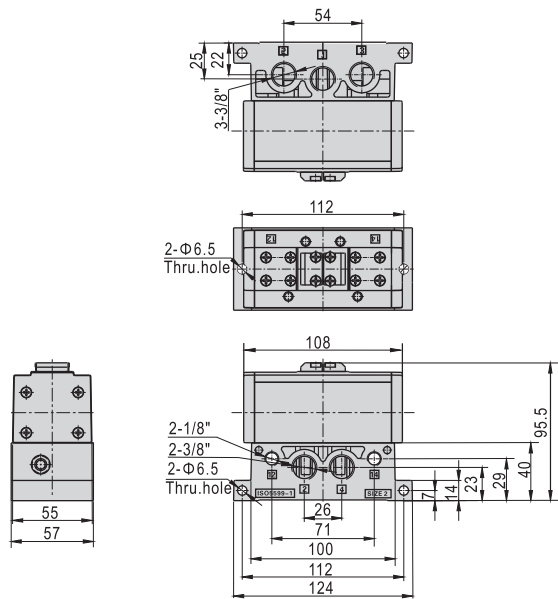


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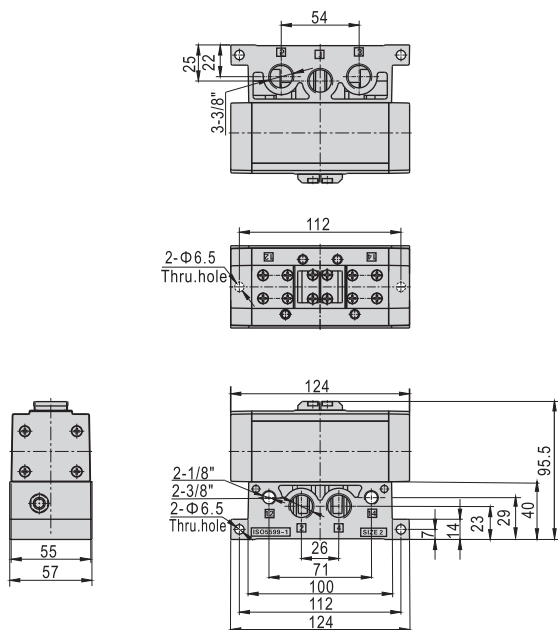
EAV200, 300, 400, 600 Series



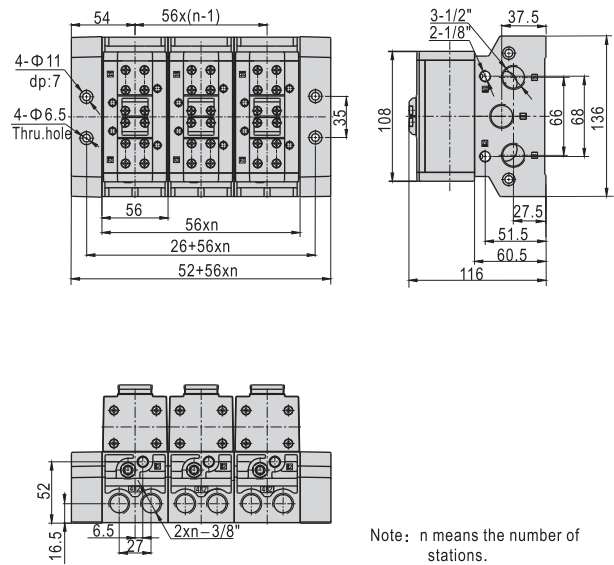
EAV310/320+ESV301M



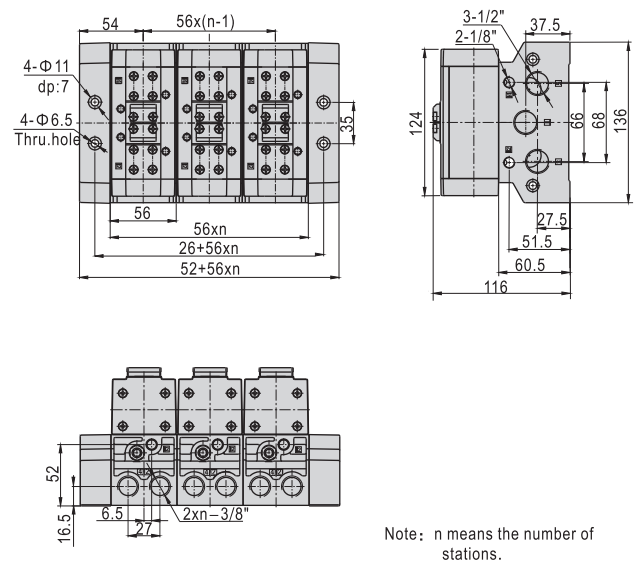
EAV330+ESV301M



EAV310/320+ESV302M+ESV303M



EAV330+ESV302M+ESV303M

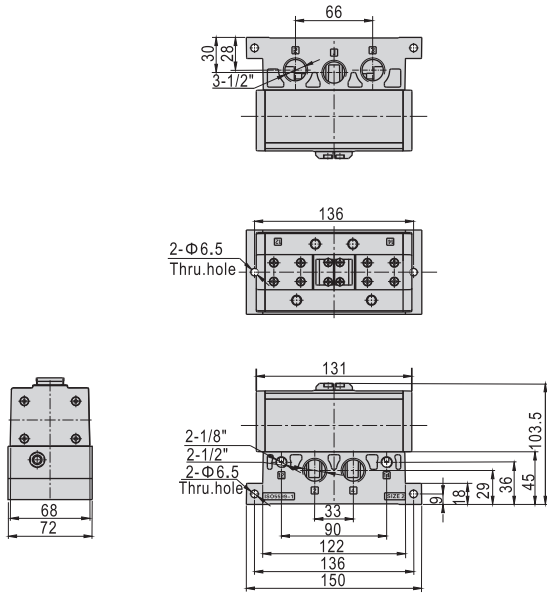


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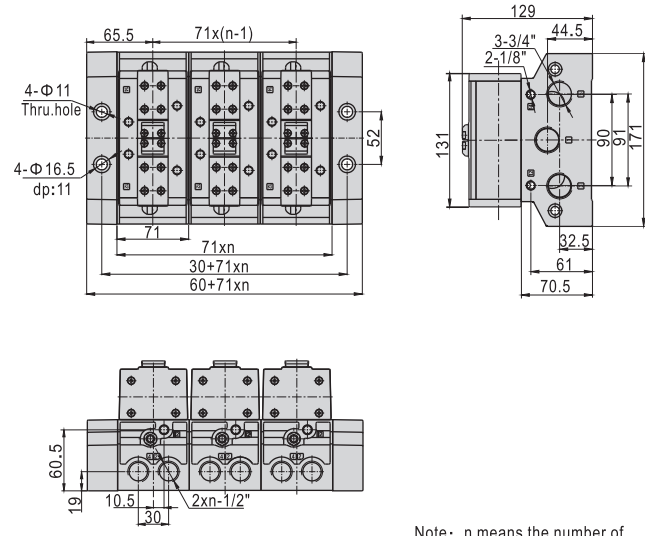
EAV200, 300, 400, 600 Series



EAV410/420+ESV401M

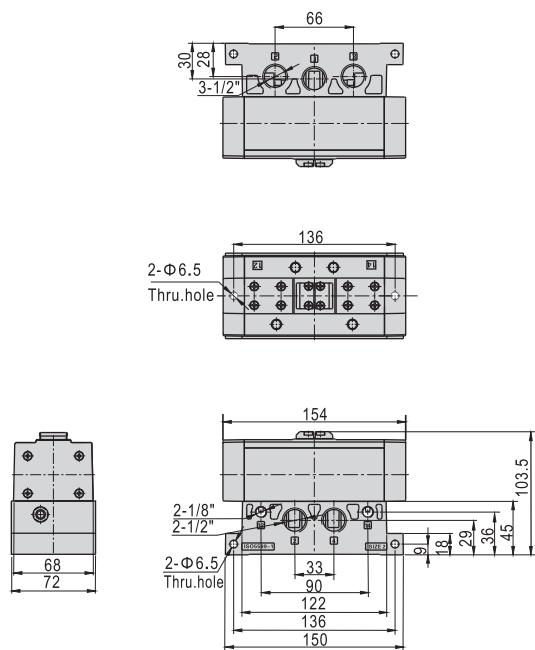


EAV410/420+ESV402M+ESV403M

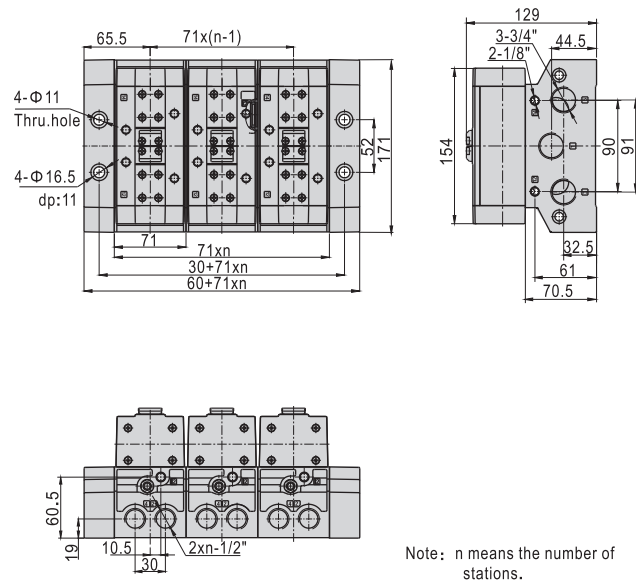


EAV

EAV430+ESV401M



EAV430+ESV402M+ESV403M



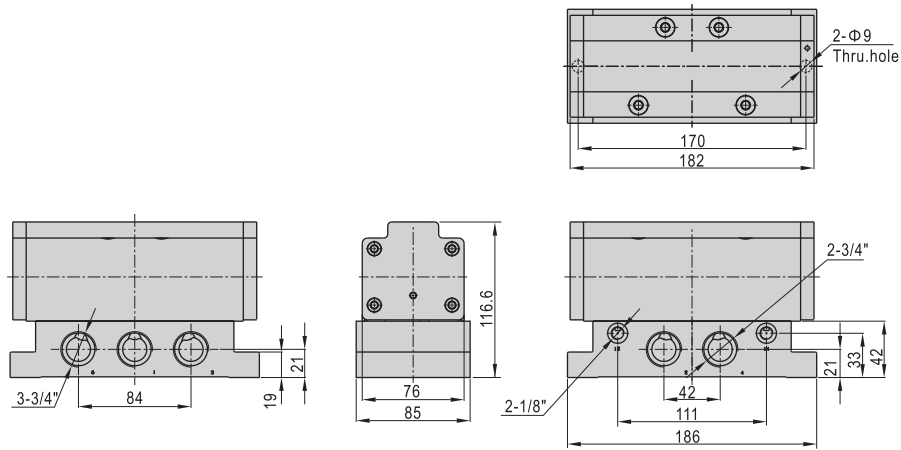
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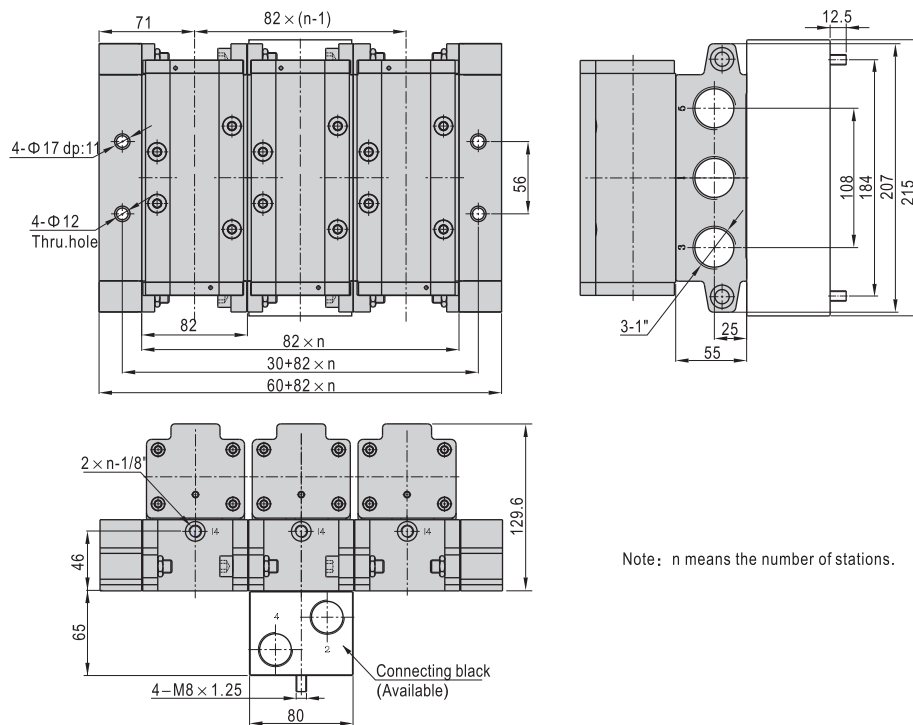
EAV200, 300, 400, 600 Series



## EAV610/620/630+ESV601M



## EAV610/620/630+ESV602M+ESV603M+ESV604M



Note: n means the number of stations.

