## Compendium of 7V Series

**Inner exhaust structure**

Special structure in the valve body, which can collect pilot airflow, and then exhaust intensively from R, S port.

**Terminal**

Special design for terminal, horizontal and vertical insertion can freely switch.


**Multi-port types are optional**

Threaded type and quick connector type are optional, and can integrate mainfold to form valve group to save space.

**Multi-series and type**

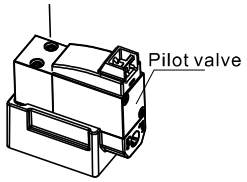
7V0500, 7V100, 7V200, 7V300 series are optional;
one series have single solenoid 5/2 way(10）, double solenoid 5/2 way（20）, double solenoid 5/3 way（30C, 30E, 30P） are optional.

**Die-cast molding with aluminum alloy for body**

The shape of cavity is reasonable, which can increase flowing area and valve's flow.

## Installation and Application

1. Don't throw or drop the solenoid valve when take it, to avoid breaking valve;
2. Because solenoid pilot valve is sophisticated component, can't crash pilot valve by outside force, otherwise solenoid valve break possibly;
3. Don't dismantle solenoid valve freely, if the screw(M1.6X14) becomes loose, please tighten it by torque 0.1~0.12N.m;
4. About manual operation:
   - 4.1. Ensure no danger, prior to activating manual override;
   - 4.2. For push button option:
     Activate by push the button in the direction shown

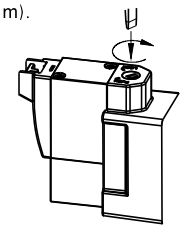



   - 4.3. For slotted option:
     Activate by push the button in the direction shown.
     With correct size screw driver:please turn to lock gently(Torque：0.1N.m).

**Attention**


Normal position


Lucked position



4.4. Wiring instruction：Vertical plug type and parallel plug type are the same as plug, please insert wire line as up drawing by practicality.

Vertical plug wire

Parallel plug wire

# Solenoid valve(5/2 way,5/3 way)

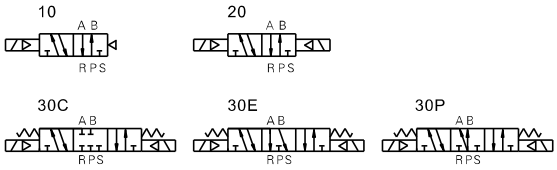
## 7V Series

## Specification

| Model | | 7V0510 | 7V0520 | 7V0530 | 7V110 | 7V120 | 7V130 |
|---|---|---|---|---|---|---|---|
| Port size [Note1] | Thread type | In=Out=Exhaust=M5 | | | In=Out=Exhaust=1/8" | | |
| | Tube type | Port A=Port B=Φ4 | | | Port A=Port B=Φ4(or Φ6or Φ8) | | |
| Orifice size (Cv value) | | 5.0mm²(0.28) | | 4.5mm²(0.25) | 9.5mm²(0.55) | | 8.0mm²(0.48) |
| Weight | | 30g | 45g | 50g | 80g | 90g | 100g |
| **Model** | | **7V210** | **7V220** | **7V230** | **7V310** | **7V320** | **7V330** |
| Port size [Note1] | Thread type | In=Out=1/4" Exhaust=1/8" | | | In=Out=3/8" Exhaust=1/4" | | |
| | Tube type | Port A=Port B=Φ8(or Φ10) | | | - | | |
| Orifice size (Cv value) | | 14.0mm²(0.83) | | 11.0mm²(0.60) | 36.0mm²(2.00) | | 21.6mm²(1.20) |
| Weight | | 120g | 135g | 145g | 230g | 265g | 305g |
| Fluid | | Air(to be filtered by 40μm filter element) | | | | | |
| Acting | | Pilot | | | | | |
| Operating pressure | 7V0530/7V130 7V230/7V330 | 0.2~0.8MPa(29~114psi) | | | | | |
| | Others | 0.15~0.8MPa(21~114psi) | | | | | |
| Proof pressure | | 1.2MPa(175psi) | | | | | |
| Temperature | | -20~70℃ | | | | | |
| Material of body | | Aluminum alloy | | | | | |
| Lubrication [Note2] | | Not required | | | | | |
| Exhaust type of pilot valve | | Main valve and pilot valve is centralized exhaust | | | | | |
| Max. frequency [Note3] | | 5 cycle/sec | | 3 cycle/sec | 5 cycle/sec | | 3 cycle/sec |

[Note1] G thread is available.
[Note2] Once lubricated air is used, continue with same medium to optimize valve life span. Lubricants like ISO VG32 or equivalent are recommended.
[Note3] The maximum actuation frequency is in the no-load state.

## Symbol




## Product feature

1. Electrical entry is terminal, horizontal and vertical insertion can freely switch.
2. Inner exhaust structure, which can collect pilot airflow, and then exhaust intensively from R, S port.
3. Die-cast molding with aluminum alloy for body. The shape of cavity is reasonable, which can increase valve's flow.
4. Threaded type and quick connector type are optional, and can integrate manifold to form valve group to save space.

## Coil specification

| Item | Specification | | | |
|---|---|---|---|---|
| Standard voltage | AC220V | AC110V | DC24V | DC12V |
| Scrop of voltage | AC：+15% ~-10% | | DC：±10% | |
| Power of consumption | 1.1VA | | 0.9W | |
| Protection | Dustproof | | | |
| Temperature classification | F Class | | | |
| Electrical entry | Terminal | | | |
| Activating time | 0.05 sec and below | | | |

## Ordering code

**7V 2 10 J 08 B 050 G**

(1) (2) (3) (4) (5) (6) (7) (8)

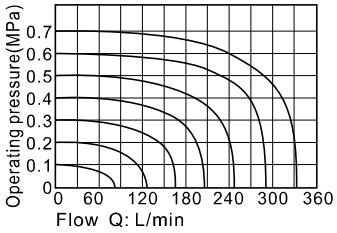
| | | | | | |
|---|---|---|---|---|---|
| ①Model | 7V: 5 port 2(3) position solenoid valve | | | | |
| ②Code | 05：0500 Series | 1：100 Series | 2：200 Series | 3：300 Series | |
| ③Valve type | 10：Single solenoid(5/2 Way) | 20：Double solenoid(5/2 Way) | 30C：Double solenoid(5/3 way closed center) | | |
| | 30E：Double solenoid(5/3 way Exhaust center) | 30P：Double solenoid(5/3 way pressure center) | | | |
| ④Port type | Blank：Thread type | J：Tube type | | | |
| ⑤Port size Thread type | M5: M5 | 06: 1/8" | 08: 1/4" | 10: 3/8" | |
| ⑤Port size Tube type | 04：Φ4mm | 04：Φ4mm/06：Φ6mm/08：Φ8mm | 08：Φ8mm/10：Φ10mm | - | |
| ⑥Voltage | A: AC220V | B：DC24V | C：AC110V | F：DC12V | |
| ⑦Line's length | 050: 0.5m | 200：2.0m | | | |
| ⑧Thread type | No this code | G：G Thread | | | |

[Note 1]: The bottom ports of solenoid valve with tube type are oval, without tread type options and can only install with a manifold.

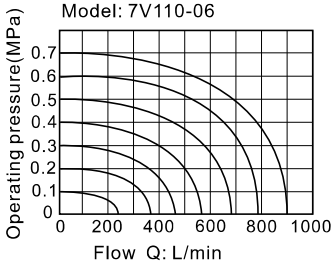
## 7V Series

### Flow chart

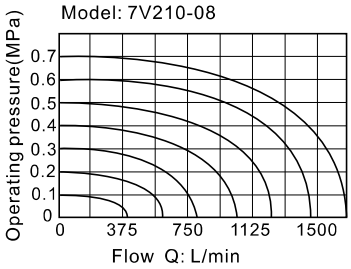
Model: 7V0510-M5



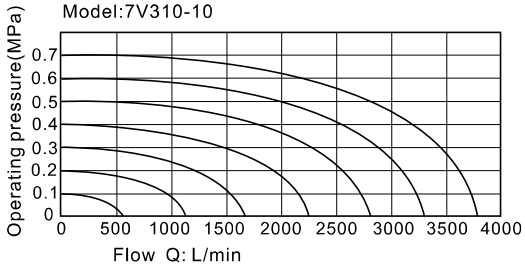

Model: 7V110-06




Model: 7V210-08

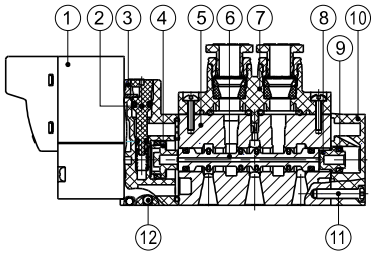



Model:7V310-10

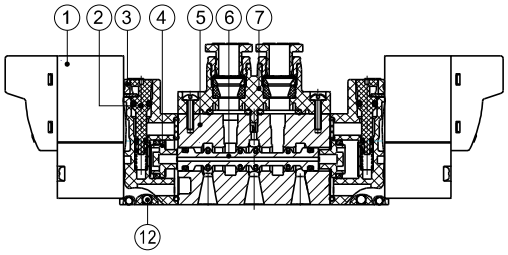



### Inner structure

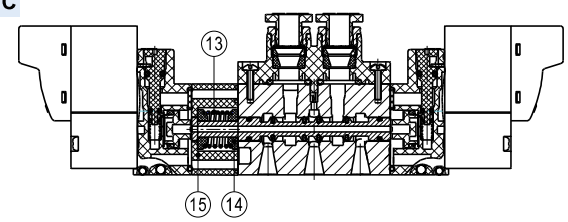
7V110




7V120



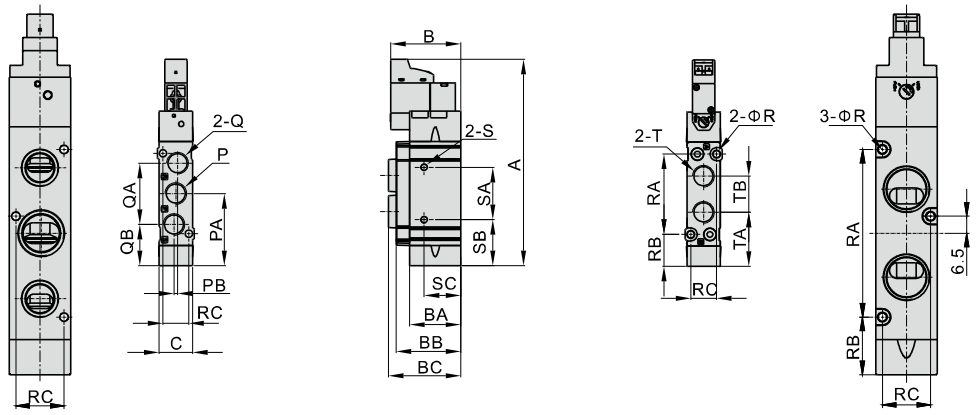

7V130C




| No. | Item | No. | Item | No. | Item |
|---|---|---|---|---|---|
| 1 | Pilot valve | 6 | Spool | 11 | Bolt |
| 2 | Manual override | 7 | Connecting block | 12 | Steel ball |
| 3 | Pilot kit | 8 | Little piston | 13 | Spring |
| 4 | Big piston | 9 | Gasket | 14 | Return holder |
| 5 | Body | 10 | Bottom cover | 15 | Side cover |

## Dimensions

**7V0510**
**7V110**
**7V210**
**7V310**

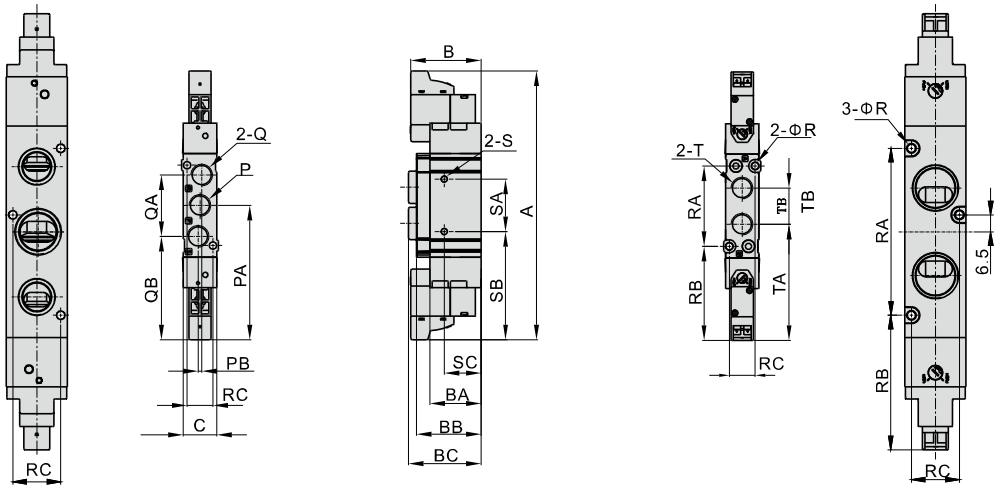



7V310 7V310

| Model\Item | A | B | BA | BB | BC | C | P | PA | PB | Q | QA | QB | T | TA | TB | R | RA | RB | RC | S | SA | SB | SC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7V0510M5 | 73 | 30.5 | 18.5 | 23 | 23.5 | 10 | M5X0.8 | 22.5 | 1 | M5X0.8 | 19 | 13 | M5X0.8 | 17.5 | 10.5 | 2.1 | 21.4 | 12 | 8.6 | M3X0.5dp3 | 9.5 | 17.8 | 4 |
| 7V0510J04 | | | | | 32.5 | | Oval | | | Oval | | | Φ4(tube) | | | | | | | – | – | – | – |
| 7V11006 | 92.5 | 32 | 23 | 29 | 32.5 | 15 | 1/8" | 32.5 | 1.6 | 1/8" | 27.2 | 18.5 | 1/8" | 24 | 16.2 | 3.2 | 36 | 14.5 | 11.6 | M3X0.5dp3 | 23.5 | 20.5 | 16.5 |
| 7V110J04 | | | | | 38.2 | | Oval | | | Oval | | | Φ4(tube) | | | | | | | – | – | – | – |
| 7V110J06 | | | | | 40 | | | | | | | | Φ6(tube) | | | | | | | | | | |
| 7V110J08 | | | | | 41.5 | | | | | | | | Φ8(tube) | | | | | | | | | | |
| 7V21008 | 106 | 33.5 | 28 | 34 | 40.5 | 18 | 1/4" | 39 | 3 | 1/8" | 36 | 21 | 1/4" | 29 | 20 | 4.3 | 42 | 18 | 13.6 | M4X0.7dp5 | 20 | 29 | 7 |
| 7V210J08 | | | | | 46.5 | | Oval | | | Oval | | | Φ8(tube) | | | | | | | – | – | – | – |
| 7V210J10 | | | | | 49 | | | | | | | | Φ10(tube) | | | | | | | | | | |
| 7V31010 | 137.5 | 46 | – | – | 46 | 23.5 | 3/8" | 54 | 0.5 | 1/4" | 50 | 29 | 3/8" | 37 | 33.5 | 3.2 | 64 | 22 | 18.4 | Φ4.3 | 25 | 41.5 | 8 |

[Note]: The bottom of solenoid valve with tube type are oval port and can only install with manifold (no side installation hole"S").

**7V0520**
**7V120**
**7V220**
**7V320**

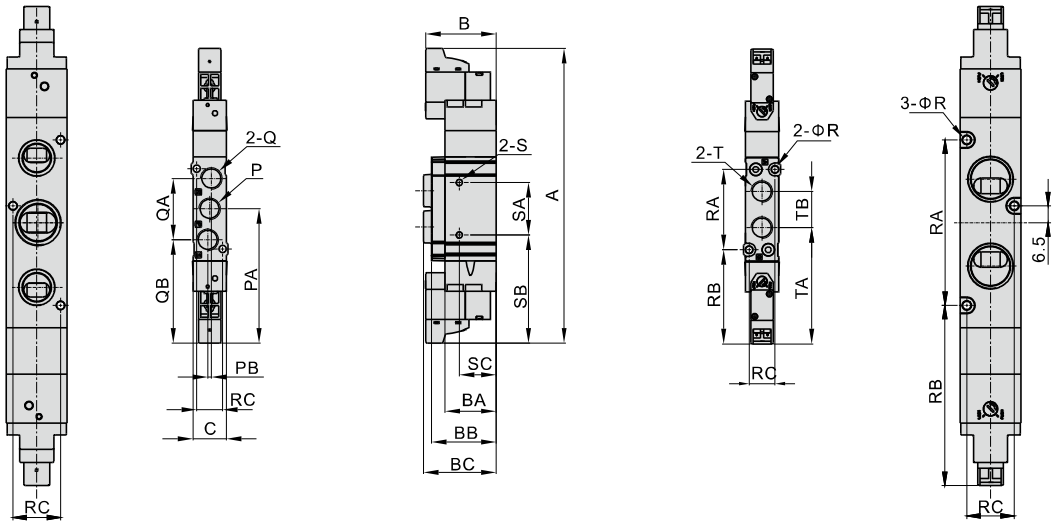



7V320 7V320

| Model\Item | A | B | BA | BB | BC | C | P | PA | PB | Q | QA | QB | T | TA | TB | R | RA | RB | RC | S | SA | SB | SC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7V0520M5 | 101.5 | 30.5 | 18.5 | 23 | 23.5 | 10 | M5X0.8 | 50.5 | 1 | M5X0.8 | 19 | 41 | M5X0.8 | 45.5 | 10.5 | 2.1 | 21.4 | 12 | 8.6 | M3X0.5dp3 | 9.5 | 17.8 | 4 |
| 7V0520J04 | | | | | 32.5 | | Oval | | | Oval | | | Φ4(tube) | | | | | | | – | – | – | – |
| 7V12006 | 120.5 | 32 | 23 | 29 | 32.5 | 15 | 1/8" | 60.5 | 1.6 | 1/8" | 27.2 | 46.5 | 1/8" | 52 | 16.2 | 3.2 | 36 | 14.5 | 11.6 | M3X0.5dp3 | 23.5 | 48.5 | 16.5 |
| 7V120J04 | | | | | 38.2 | | Oval | | | Oval | | | Φ4(tube) | | | | | | | – | – | – | – |
| 7V120J06 | | | | | 40 | | | | | | | | Φ6(tube) | | | | | | | | | | |
| 7V120J08 | | | | | 41.5 | | | | | | | | Φ8(tube) | | | | | | | | | | |
| 7V22008 | 134 | 33.5 | 28 | 34 | 40.5 | 18 | 1/4" | 67 | 3 | 1/8" | 36 | 49 | 1/4" | 57 | 20 | 4.3 | 42 | 18 | 13.6 | M4X0.7dp5 | 20 | 57 | 7 |
| 7V220J08 | | | | | 46.5 | | Oval | | | Oval | | | Φ8(tube) | | | | | | | – | – | – | – |
| 7V22008J10 | | | | | 49 | | | | | | | | Φ10(tube) | | | | | | | | | | |
| 7V32010 | 167 | 46 | – | – | 46 | 23.5 | 3/8" | 83.5 | 0.5 | 1/4" | 50 | 58.5 | 3/8" | 67 | 33.5 | 3.2 | 64 | 51.5 | 18.4 | Φ4.3 | 25 | 71 | 8 |

[Note]: The bottom of solenoid valve with tube type are oval port and can only install with manifold (no side installation hole"S").

7V0530
7V130
7V230
7V330




7V330 7V330

| Model\Item | A | B | BA | BB | BC | C | P | PA | PB | Q | QA | QB | T | TA | TB | R | RA | RB | RC | S | SA | SB | SC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7V0530M5 | 110 | 30.5 | 18.5 | 23 | 23.5 | 10 | M5X0.8 | 50.5 | 1 | M5X0.8 | 19 | 41 | M5X0.8 | 45.5 | 10.5 | 2.1 | 21.4 | 12 | 8.6 | M3X0.5dp3 | 9.5 | 45.8 | 4 |
| 7V0530J04 | | | | | 32.5 | | Oval | | | Oval | | | Φ4(tube) | | | | | | | – | – | – | – |
| 7V13006 | 132 | 32 | 23 | 29 | 32.5 | 15 | 1/8" | 60.5 | 1.6 | 1/8" | 27.2 | 46.5 | 1/8" | 52 | 16.2 | 3.2 | 36 | 14.5 | 11.6 | M3X0.5dp3 | 23.5 | 48.5 | 16.5 |
| 7V130J04 | | | | | 38.2 | | Oval | | | Oval | | | Φ4(tube) | | | | | | | – | – | – | – |
| 7V130J06 | | | | | 40 | | | | | | | | Φ6(tube) | | | | | | | | | | |
| 7V130J08 | | | | | 41.5 | | | | | | | | Φ8(tube) | | | | | | | | | | |
| 7V23008 | 147 | 33.5 | 28 | 34 | 40.5 | 18 | 1/4" | 67 | 3 | 1/8" | 36 | 49 | 1/4" | 57 | 20 | 4.3 | 42 | 18 | 13.6 | M4X0.7dp5 | 20 | 57 | 7 |
| 7V230J08 | | | | | 46.5 | | Oval | | | Oval | | | Φ8(tube) | | | | | | | – | – | – | – |
| 7V230J10 | | | | | 49 | | | | | | | | Φ10(tube) | | | | | | | | | | |
| 7V33010 | 185 | 46 | – | – | 46 | 23.5 | 3/8" | 101.5 | 0.5 | 1/4" | 50 | 76.5 | 3/8" | 85 | 33.5 | 3.2 | 64 | 69.5 | 18.4 | Φ4.3 | 25 | 89 | 8 |

[Note]: The bottom of solenoid valve with tube type are oval port and can only install with manifold (no side installation hole"S").