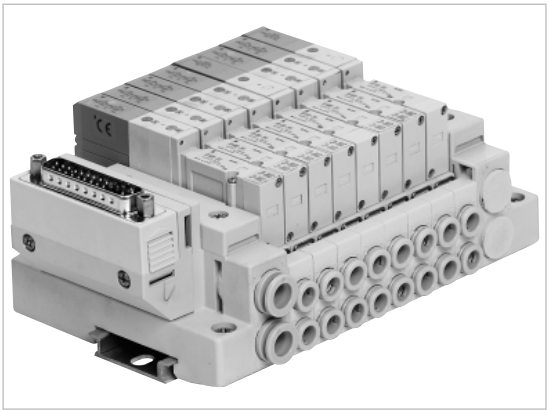
Pilot valve cluster PV2000



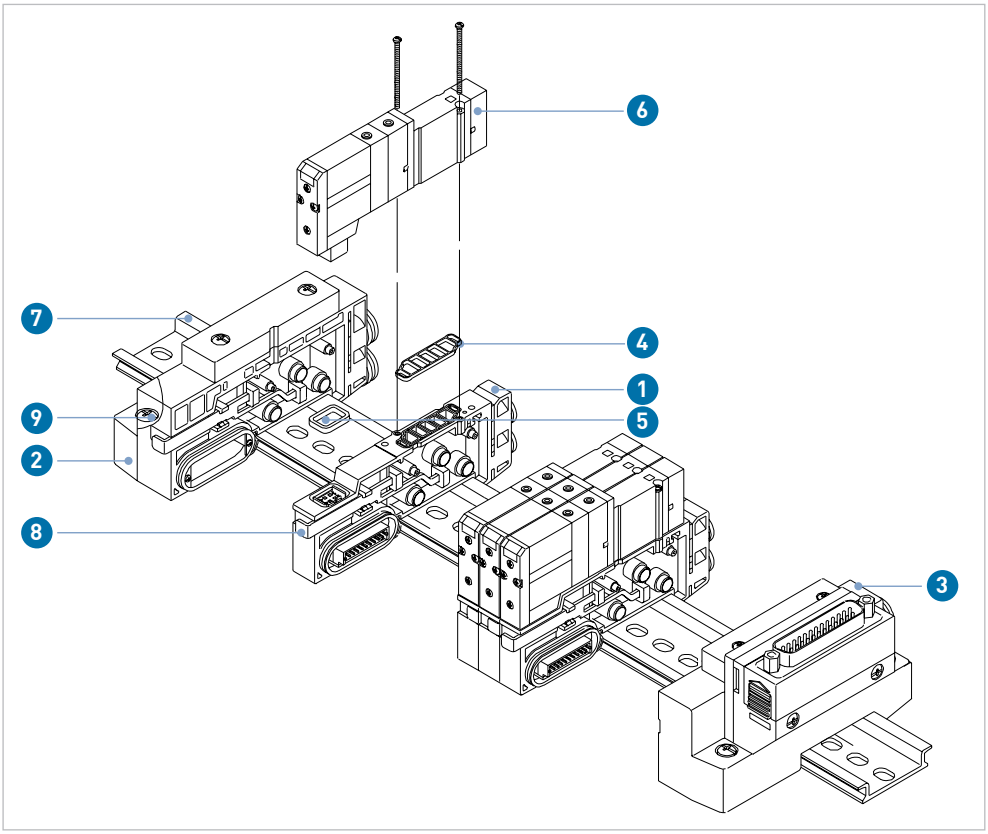
Product description

The pilot valve cluster PV 2000 is used for activating several actuators at the same time. It consists of a connecting module, several solenoid pilot valves and an end module. Depending on the application you can choose a connecting module for D-sub connection, AS interface or Profibus. The modular system allows combining 3/2 and 5/2-way valves as required by the application.

Benefits/features

- Compact design
- Fully modular
- Easy subsequent extension
- Connectors for electric as well as pneumatic connections
- 5/2- and 3/2-ways valves
- Bus interfaces available
- Low power consumption
- Optical position indicator
- Manual override

Technical data



① Mounting base
② End module
③ Connection module with D-sub connector
④ Valve seal
⑤ Connector seal
⑥ Solenoid valve
⑦ DIN rail (customer-supplied)
⑧ Separation lever
⑨ Screw

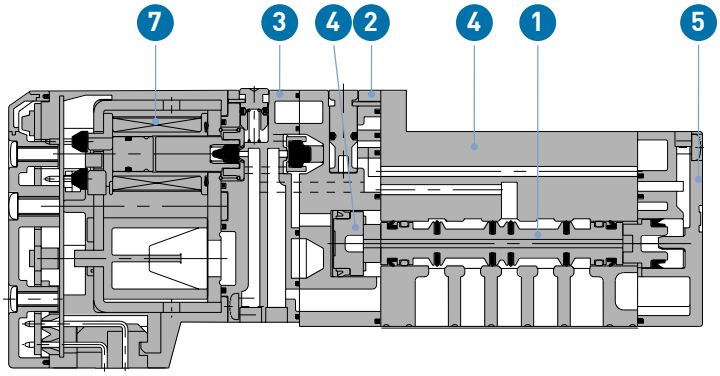
Specification		
Manifold type		Stacking type cassette base manifold
1/3 (P: supply), 5 (R: exhaust)		Common supply, exhaust
Valve station		Max. 18 stations
Max. number of solenoids		18
Port size	1(P)/3, 5(E) connection	C8 *
	4(A)/2(B) connection	C6 *
Internal pilot operating pressure range		1.5 to 7 bar
Medium		Compressed air, 5 µm filter or smaller recommended
Maximum operating frequency (Hz)		5
Manual override		Non-locking type
Pilot exhaust method		Main valve / pilot valve common exhaust
Lubrication		Not required
Mounting orientation		Unrestricted
Impact/vibration resistance		150/30 ms (8.3 to 2000 Hz)
Protection rating valves / D-sub connector		IP67/IP40 (acc. IEC529)
Supply voltage / duty cycle		24 V DC / 100 %
Allowable voltage fluctuation		± 10 % of rated voltage
Power consumption		0.65 W
Spark suppression		Zener diode
Indicator light		LED

* C6: One-touch fitting for Ø 6 mm
* C8: One-touch fitting for Ø 8 mm

Impact resistance
No malfunction when tested with a drop tester in the axial direction and at a right angle to the main valve and armature, one time each in energized and de-energized states (at initial value).

Vibration resistance
No malfunction when tested with one sweep of 8.3 to 2,000 Hz in the axial direction and at a right angle to the main valve and armature, in both energized and de-energized states (at initial value).

Materials



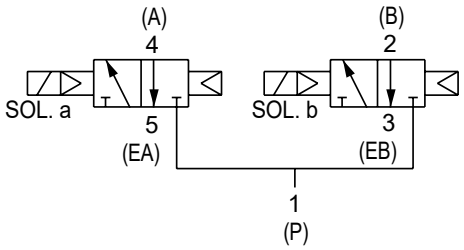
① Body (die-cast aluminum zinc)
② Adapter plate (Resin)
③ Pilot body (Resin)
④ Piston (Resin)
⑤ End plate (Resin)
⑥ Spool valve assembly (Aluminum/H-NBR)
⑦ Molded coil (Resin)

5/2-way valve

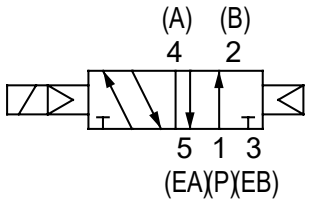
Flow characteristics

Model	Port size		Flow values	
	1, 5, 3	4, 2	1 → 4, 2 (P → A, B)	4, 2 → 5, 3 (A, B → EA, EB)
	(P/EA/EB)	(A/B)	Flow rate (l/min)	Flow rate (l/min)
SS5 V1-16	C8*	C6*	216	226

Mode of operation of valves



2 x 3/2-way valve

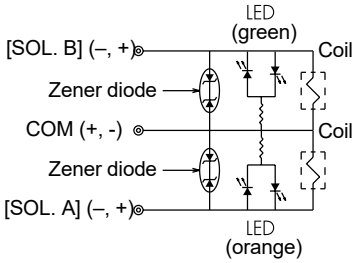


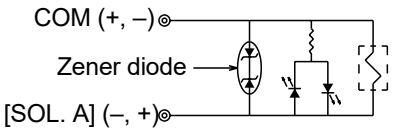
5/2-way valve

Electrical connections

When electric power is connected to the solenoid valve, be careful to apply the proper voltage. Improper voltage may cause malfunction or coil damage.

After completing the wiring, confirm that the connections are correct.





5/2-way valve	2 x 3/2-way valve

Assignment of wire colors as per DIN 4710

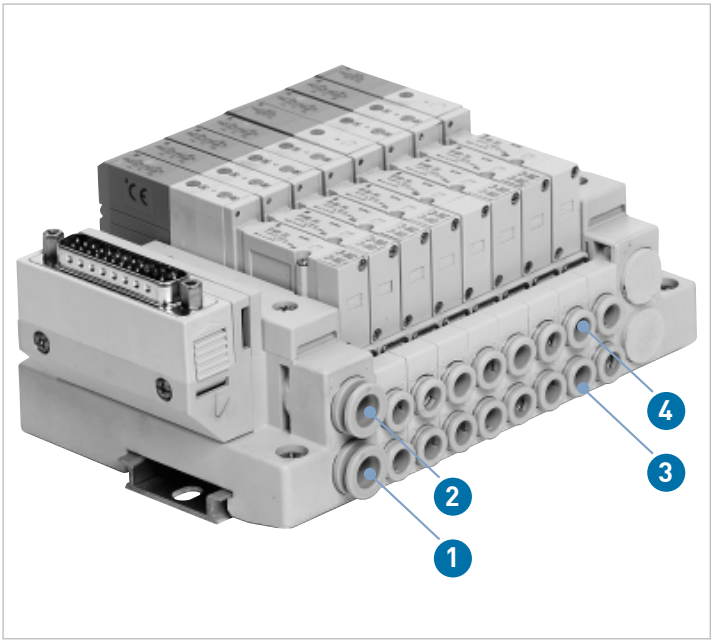
Process connection	Wire color	Marking
1	White	
2	Brown	
3	Green	
4	Yellow	
5	Grey	
6	Pink	
7	Blue	
8	Red	
9	Black	
10	Violet	
11	Grey	Pink
12	Red	Blue
13	White	Green
14	Brown	Green
15	White	Yellow
16	Yellow	Brown
17	White	Grey
18	Grey	Brown
19	White	Pink
20	Pink	Brown
21	White	Blue

Pneumatic connections

Use clean compressed air
Do not use compressed air which contains chemicals, synthetic oils containing organic solvents, salts or corrosive gases, etc., as this can cause damage or malfunction.

Install air filters
Install air filters close to valves at their upstream side. A filtration degree of 5 µm or less should be selected.

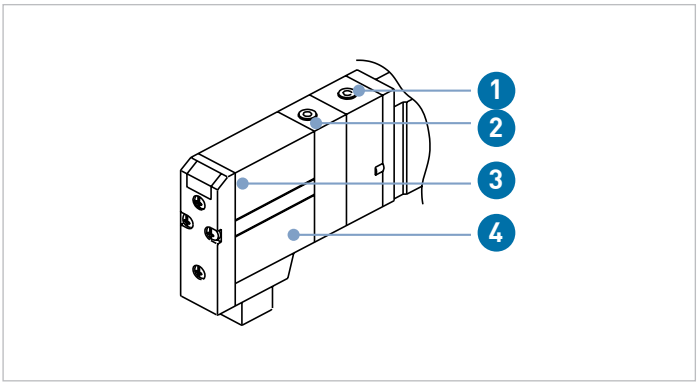
Install an air dryer, after-cooler or water separator
Air that contains excessive condensate may cause malfunction of valves and other pneumatic equipment. Take measures by installing an air dryer, after-cooler or water separator, etc.
Prevent any excessive carbon powder concentration, by installing water separators on the valve inlet side.
If excessive carbon powder is generated by the compressor, it may adhere to the inside of valves and cause malfunction.



① Common exhaust
② Compressed air inlet
③ Valve outlet A
④ Valve outlet B

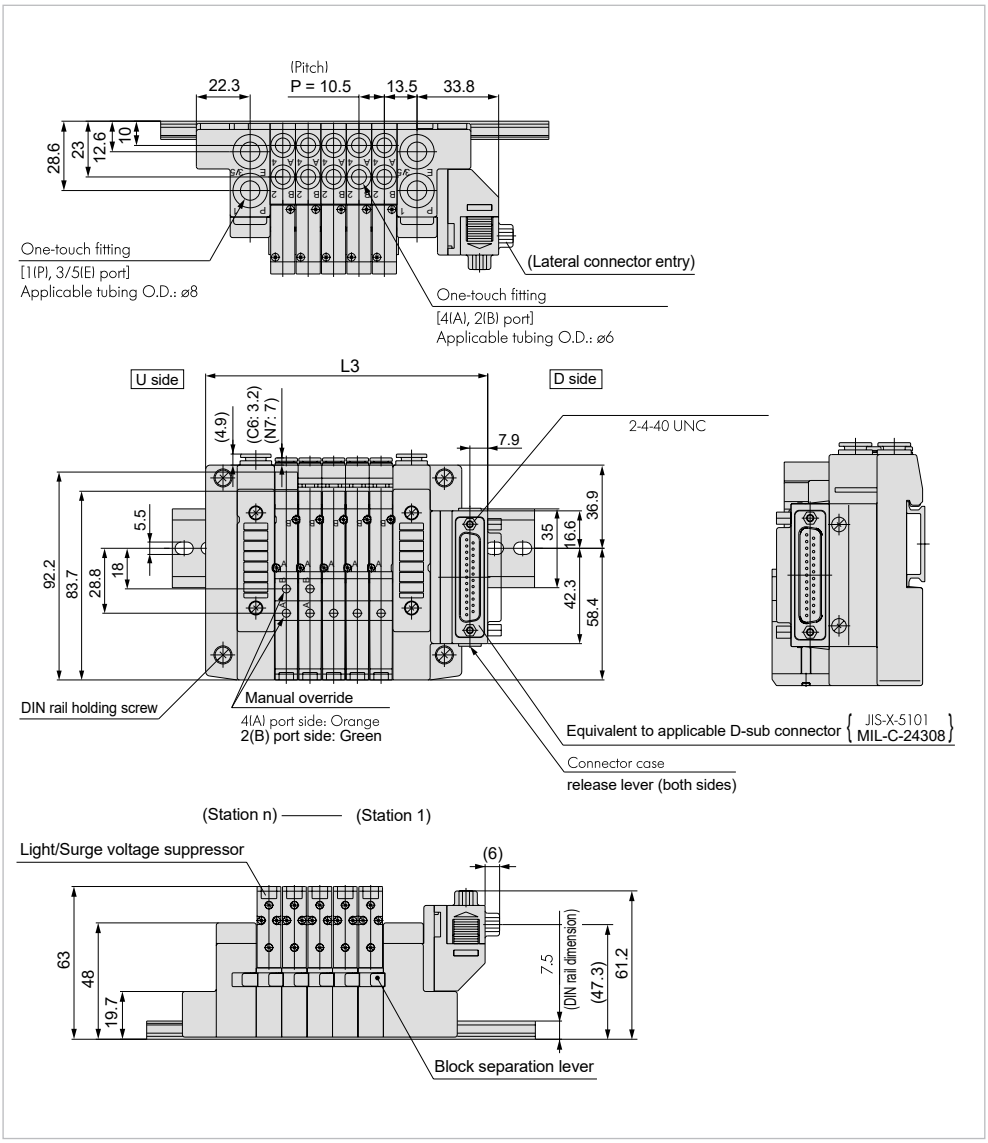
Manual override

Handle carefully, as connected equipment can be actuated through manual override operation.



① Manual override for solenoid B
② Manual override for solenoid B
③ Solenoid A
④ Solenoid B

Dimensions



n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
L3 (mm)	99.5	110	120.5	131	141.5	162.5	152	173	183.5	194	204.5	215	225.5	236	246.5	257	267.5

n = Number of stations

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