

Pneumatic Circuit

⚠ Warning

3. Avoid backflow of the exhaust pressure when there is a possibility of interference of exhaust air, for example for a common exhaust type valve manifold.

The lock may not operate properly when the exhaust air pressure backflows due to interference of the exhaust air when exhausting air for lock release. It is recommended to use an individual exhaust type manifold or individual valves.

4. Allow at least 0.5 seconds from a locked stop (intermediate stop of the cylinder) until release of the lock.

When the locked stop time is too short, the piston rod (and load) may lurch at a speed greater than the control speed of the speed controller.

5. When restarting, control the switching signal for the unlocking solenoid valve so that it acts before or at the same time as the cylinder drive solenoid valve.

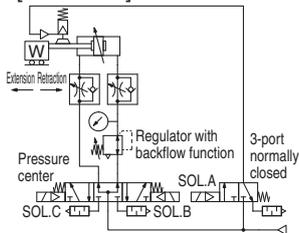
If the signal is delayed, the piston rod (and load) may lurch at a speed greater than the control speed of the speed controller.

6. Carefully check for dew condensation due to repeated air supply and exhaust of the locking solenoid valve.

The operating stroke of the lock part is very small. So, if the piping is long and the air supply and exhaust are repeated, the dew condensation caused by the adiabatic expansion accumulates in the lock part. This may corrode internal parts, causing air leak or lock release fault.

7. Basic circuit

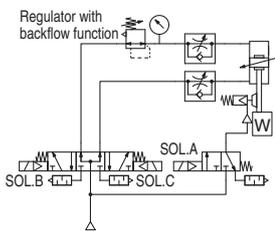
1. [Horizontal]



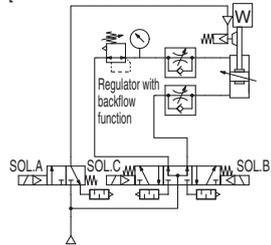
| SOL.A | SOL.B | SOL.C | Action | Time |
|-------|-------|-------|-------------|---------------|
| ON | ON | OFF | Extension | |
| OFF | OFF | OFF | Locked stop | 0.5 s or more |
| ON | OFF | OFF | Unlocked | 0 to 0.5 s |
| ON | ON | OFF | Extension | |
| ON | OFF | ON | Retraction | |
| OFF | OFF | OFF | Locked stop | 0.5 s or more |
| ON | OFF | OFF | Unlocked | 0 to 0.5 s |
| ON | OFF | ON | Retraction | |

2. [Vertical]

[Load in the direction of rod extension]



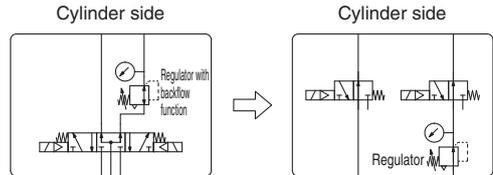
[Load in the direction of rod retraction]



* The symbol for the cylinder with lock in the basic circuit uses SMC original symbol.

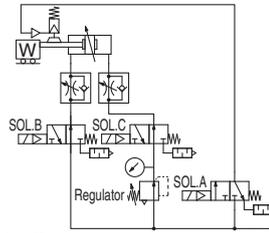
⚠ Caution

1. 3-position pressure center solenoid valve and regulator with backflow function can be replaced with two 3-port normally open valves and a regulator with relief function.



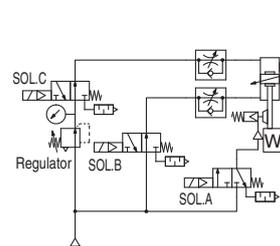
[Example]

1. [Horizontal]

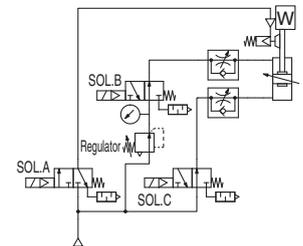


2. [Vertical]

[Load in the direction of rod extension]



[Load in the direction of rod retraction]



* The symbol for the cylinder with lock in the pneumatic circuit uses SMC original symbol.