



## Safety precautions

# Fluid Control Components: Warnings and Cautions

Be sure to read this section before use.

## Precautions for each model series and for individual products

Direct acting 2, 3-port solenoid valve for dry air (AB-Z/GAB-Z/AG-Z/GAG-Z)

### Design/selection

#### ⚠ WARNING

##### 1 Working fluids

- (1) The quality of the dry air used for the general purpose valve for dry air (Z Series) should have an atmospheric dew point of -60°C and over and an oil removing rate of 0.01 mg/m<sup>3</sup> or less.
- (2) This valve cannot be used for maintaining vacuum. Consult with CKD when the vacuum needs to be maintained.

#### ⚠ CAUTION

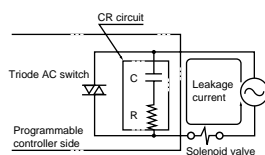
##### 1 Continuous energizing

Use the NO pressurization when using the 3-port valve in a continuously energized state with the NO port pressurized. When continuously energizing the universal or NC pressurization, use a fluoro rubber seal.

##### 2 Leakage current from other

fluid control components

When operating the solenoid valve with a programmable controller, etc., check that the output leakage current from the programmable controller is within the specifications. Failure to observe this could lead to malfunctions.



## Mounting, piping and wiring

#### ⚠ CAUTION

##### 1 Piping

- (1) Always hold the socket with a wrench, etc., if the NO side is a socket.

##### 2 Wiring

Refer to Intro Page 64 for information on how to wire a terminal box.

### When using the product

#### ⚠ CAUTION

##### 1 Manual operation

When using a product with a manual override, follow the operations below:

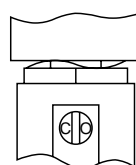
[For NC (open when energized)]

**Opening** : Insert a flathead screwdriver into the slit on the manual adjustment shaft, and turn it approx. 120° to the right or left. The plunger will rise and the valve will open. (For the 3-port valve, the NC side valve seat will open and the NO side valve seat will close.) The open state is held even when the screwdriver is removed.

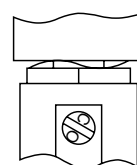
Always return the valve to the original position after use.

**Closing** : From the open position, turn the manual adjustment shaft so that the slit is returned to the perpendicular position, which will lower the plunger and close the valve. (For the 3-port valve, the NC side valve seat will close and the NO side valve seat will open.)

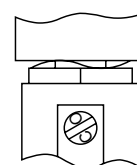
(Refer to the figure below)



Valve closed state



Valve open state



Valve open state

## Maintenance

#### ⚠ CAUTION

- 1 When disassembling or assembling, tighten the core assembly and socket with the following tightening torques.

Model No.	Core assembly tightening torque	Socket tightening torque	Nut tightening torque
AB	25 to 45 Nm	-	8 to 16 Nm
AG	25 to 45 Nm	8 to 16 Nm	8 to 16 Nm

# Precautions for each model series and for individual products

## Pilot kick 2, 3-port solenoid valve for dry air (ADK-Z)

### Design/selection

#### ⚠ WARNING

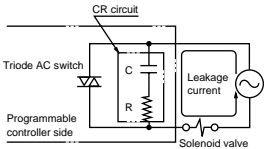
##### 1 Working fluids

- (1) The quality of the dry air used for the general purpose valve for dry air (Z Series) should have an atmospheric dew point of -60°C and over and oil removing rate of 0.1 PPM<sub>w</sub> or less.
- (2) This valve cannot be used for maintaining vacuum.

#### ⚠ CAUTION

##### 1 Leakage current from other fluid control components

When operating the solenoid valve with a programmable controller, etc., check that the output leakage current from the programmable controller is within the specifications.



### Mounting, piping and wiring

#### ⚠ CAUTION

##### 1 Mounting

- (1) As a general rule, the mounting orientation is vertical, with the coil on top.

##### 2 Piping

- (1) If the pipe vibrates when the solenoid valve is opened and closed, securely fix the piping.
- (2) When the regulator and solenoid valve are directly coupled, the parts could mutually vibrate, causing resonance and chattering.
- (3) If the piping cross-sectional area on the fluid inlet is reduced, the operation may become unstable due to differential pressure failure during valve operation. For the fluid inlet, use piping of a piping size that matches the port size of the valve. Do not use a needle valve.

##### 3 Wiring

Refer to Intro Page 64 for information on how to wire a terminal box.

### When using the product

#### ⚠ CAUTION

##### 1 Instantaneous leakage

With the pilot kick 2-port valve, if the pressure is suddenly applied while the valve is closed, the valve may open for an instant causing fluid to leak. Caution is required during use.

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/ AD
APK/ ADK
DryAir
EX- XPLNprf
XPLNprf
HVB/ HVL
S $\leftrightarrow$ B/ NAB
LAD/ NAD
Water- Rela
NP/NAP/ NVP
SNP
CHB/G
MXB/G
Other valves
SWD/ MWD
DustColl
CVE/ CVSE
CCH/ CPE/D
LifeSci
Gas- Combus
Auto- Water
Outdoor
SpecFld
Custom
Ending