

# DCF-90 Electromagnetic Switch off Valve Operation Manual

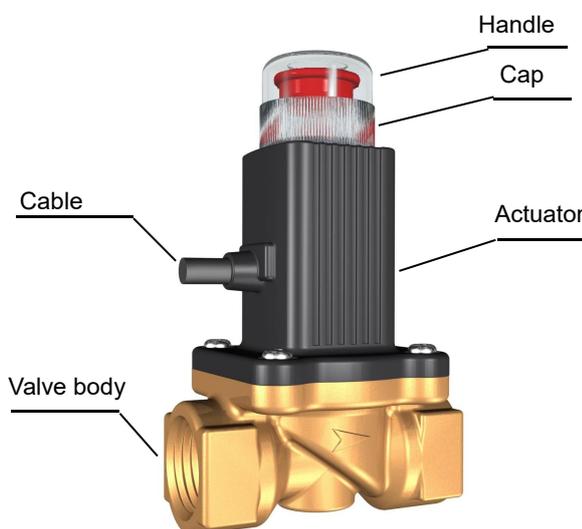
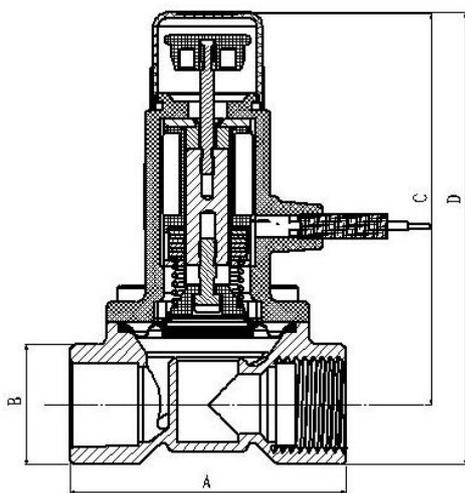
## 1. Introduction

DCF-90 electromagnetic switch off valve is the safety switch off equipment for gas pipeline. It can connect with gas leakage alarm or fire systems to shut off gas supply. If there is strong shock, the valve will shut automatically.

## 2. Technical Data

- Target gas: Natural gas, LPG, Coal gas etc. non corrosive gases
- Operating manner: manual reset
- Power pulse actuation(typical value): DC9V (Pulse)
- Body: Brass alloy (HPb59-1)/ Aluminum alloy
- Driving voltage: 9V DC ~ 12V DC
- Currency: <1.5A (Pulse)
- Airproof material: NBR rubber
- Valve closed time: <1 second
- Environment temperature: -10°C ~ 50°C
- Explosion-proof type: Water sealed
- Operation pressure: 10kPa
- Diameter: G1/2", G3/4"

## 3. Dimension



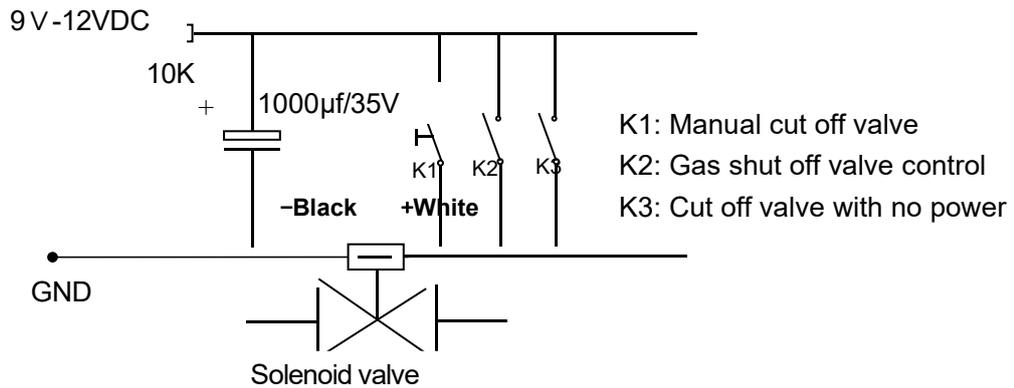
Size	A(mm)	B(mm)	C(mm)	D(mm)
DN15A	64	28	89	103
DN20A	71	34	90	110

## 4. Operation Principle

The valve utilizes the interactions between momentary solenoid force and permanent magnetic force and spring force to maintain the valve closing with the pulse and the valve opening with hands.

Principle of the valve closing: The valve is closed with momentary direct current pulse (9-12V/s).

**Scheme for capacitor discharge drive circuit:**



**5. Operation Instructions**

5.1 There are two ways to close the valve:

- The valve will be closed quickly when a momentary (about 1 second) direct current pulse(9-12VDC) is given to the solenoid coil;
- The red handle is pushed down with a hand after the protection cover opening. The closing status will be kept by the valve itself.

**Note:** Do not open the protection cover in normal situation so as not to close the valve.

5.2 There is only one way to open the valve when it is in closing status. The way for opening is to pull the red handle up with a hand. The opening status will be kept by the valve itself.

Note: If there are difficulties to pull the red handle up with a hand, special steps should be taken to balance the pressure at the outlet and inlet of the valve and then try to open again.

5.3 The opening status: The valve will be closed automatically due to the magnetic lock design when harmful shaking violently occurs. If the self-locking function of the valve is not normal or partially lost, please inform the manufacturer to check.

5.4 The valve closing status should be confirmed by users in field. The valve reset and gas supply restart can be done only when the source of gas leaking has been found out and the problem has been solved.

**6. Installation Requirements**

6.1 The agency involved in the valve installation should have relative experience and follow the regulations on gas pipeline installation.

6.2 The location of the valve should be behind the general gas input valve so that the check on it can be done easily.

6.3 The valve should be installed at the gas flow direction indicated on the valve body. The valve coil should not be upside down. The horizontal or vertical installations are allowed.

6.4 The valve control wires should be connected correctly. The wires have polarity. The white one is anode and the black one is cathode. They should not be connected reversely.

6.5 When doing gas pipeline cleaning, the valve should be covered in order to avoid damage to the valve seal materials.

6.6 The valve should be in opening status before the pipeline seal check with the test pressure.

6.7 The valve opening with hands can be carried out when equal pressures have been reached at the inlet and the outlet of the valve.

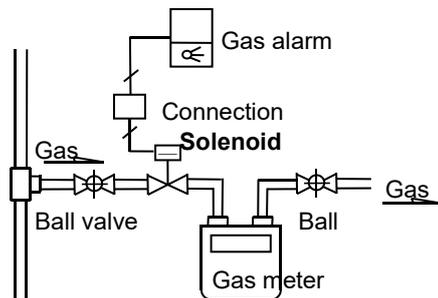
6.8 Do not get wrong electricity (wrong polarity, wrong voltage or prolonged power on) when the valve will be closed with electricity in order to avoid damage to electromagnetic coil.

6.9 Our guarantee does not cover any damage to the valve or loss of parts due to careless keeping or actions in violation of relative regulations.

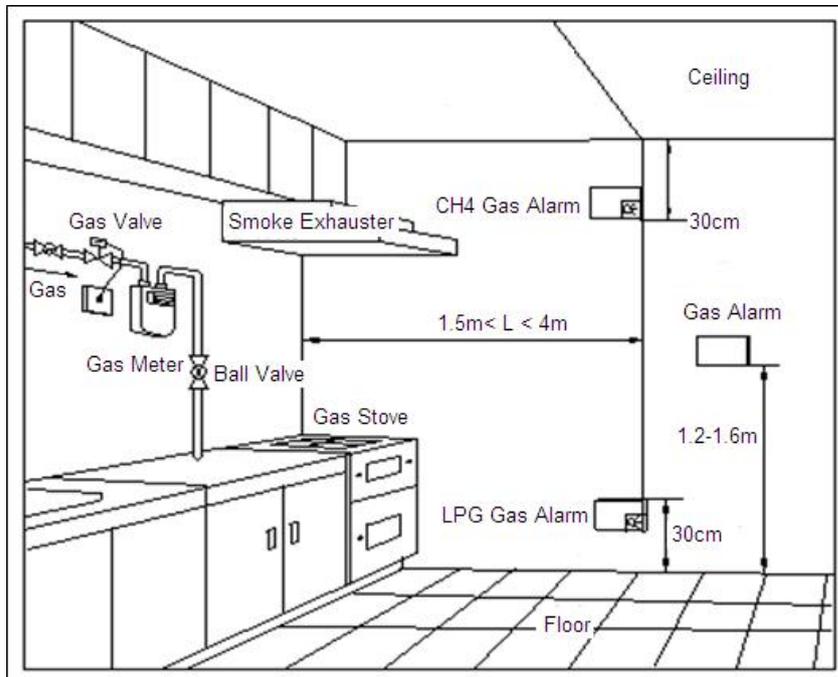
**Note:**

1. If there is water or bubble fluid, please wipe it dry. Otherwise, it will be corroded.
2. If installing the valve outside or semi-outside, please take action to proof rain or other wet things.
3. The cover on the valve is water proof and dust proof components. Please take care and do not throw it away. Otherwise, it will influence the function of the valve.

**7. Guide on the Valve Installation**



Scheme for installation of the solenoid valve



Scheme for applications of products

**8. Wire Requirements**

Cable: Twin-core guard wire 2×0.75;

Distance under control: Capacitor discharge drive. The wiring length: <20m.

## **9. Maintenance**

The valve opening status and closing status should be checked periodically. If the valve goes wrong, please inform professionals or the manufacturer to have a repair in time.