

Instructions for use of safety valve
quick switching device

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1. summary:

The quick switch device is a new product developed on the basis of the original safety valve and switch valve. According to the standard design, the inlet switch of the safety valve can be realized on the pipeline. This manual mainly introduces the switching valve part, the safety valve part, please refer to our company "spring safety valve manual".

2. use

2.1 Use: This product is widely used in water, oil, natural gas, steam and other non-corrosive media and corrosive medium pipeline as overpressure protection device, with the advantages of small flow resistance, flexible opening and closing, long life, safe and reliable, compact structure and so on, can achieve the following functions:

<1, can realize non-stop operation, one safety valve operation, another safety valve can be disassembled under the premise of no-stop maintenance, reduce downtime, to achieve the maximum economic benefits.

<2. The two safety valve exits share the same pipe to reduce the number of pipes and reduce the cost of pipes.

<3. Reliable seal, and still maintain the required seal after many actions.

<4. Under each safety valve, install a discharge valve, in order to safely and effectively discharge the medium before the safety valve to be removed, and introduce it into the discharge pipe.

<5. The quick switch device is equipped with a balance valve, so the operation is light.<6, wide applicable temperature range (low temperature to high temperature).

2.2 Scope of application: chemical industry, petroleum refining, oil and natural gas pipeline transportation and other industries.

3. Main criteria adopted:

- 3.1. Connect the flange according to ASME B16.5;
- 3.2 Inspection and test shall be specified by API598 and API527;
- 3.3. Valve pressure-temperature reference shall be specified in ASME B16.34.

4. Model description (switch the stop valve):

MFJ41H — 150C

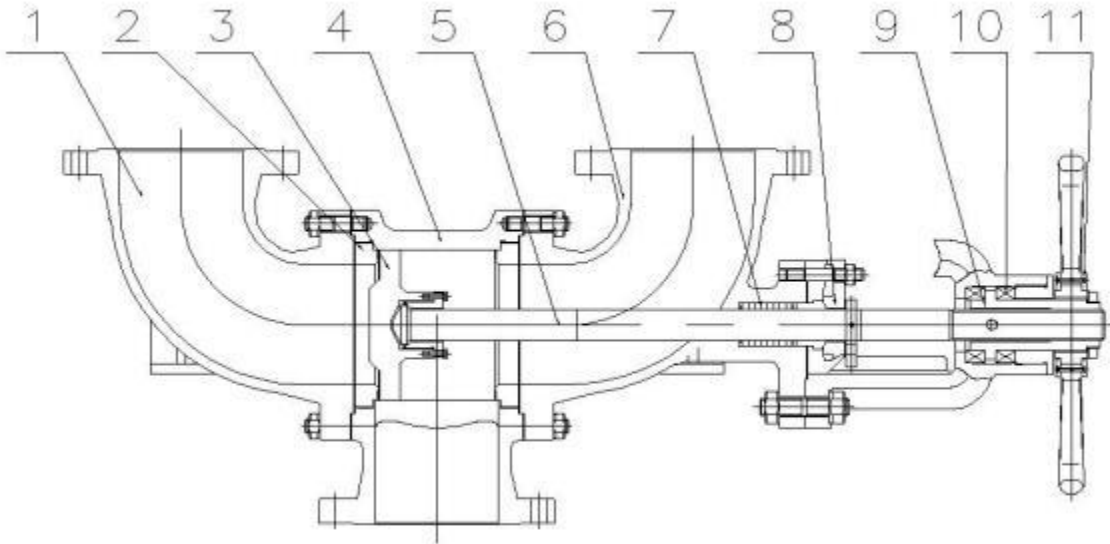
MFJ41H- -Xia Zhao card switch stop valve;

150-nominal pressure: 150 LB

C- -The valve body material is carbon steel.

5. design feature:

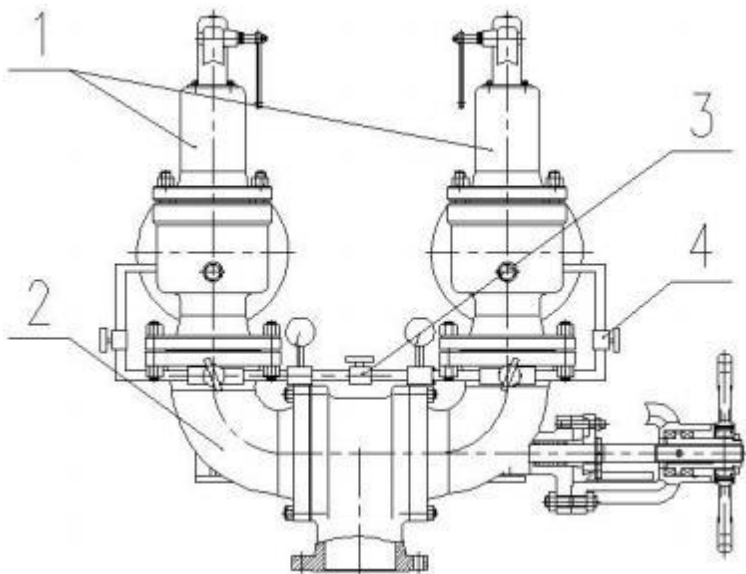
5. 1 Switching valve structure drawing 1:



graph 1

1. Left valve body	2. Left seat	3. Valve
4. Medium valve body	5. Valve rod	6. Right valve body
7. Filling	8. Filler material pressure cover	9. Stem nut
Bearing	Handwheel	

5.2 Structure of safety valve single quick switch device drawing 2:



graph 2

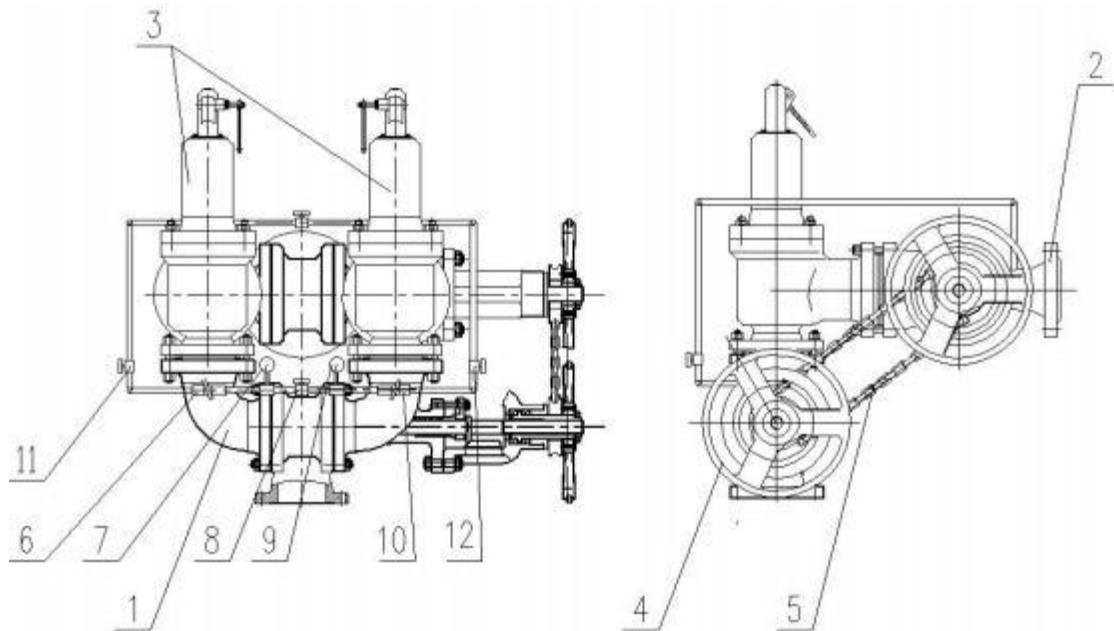
1. Safety valve	2. Switch valve	3. Balance valve	4. Release the valve
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5.3 Structure of safety valve double quick switching device

Figure 3:



graph 3

1. The inlet switch valve	2. Exit switching valve	3. Safety valve
4. Handwheel	The chain	6,10, cut-off valve
7,9, the pressure gauge	8. Balance valve	11,12, let-out valve

Bypass pipeline device

order number	act on
6.Cut-off valve # I	During normal operation, the valve is in an open state.
7.Pressure gauge number I	Display the inlet device pressure and monitor the left pressure point.
8.Balance valve # I	In normal operation, the valve is closed and cut.
9.Pressure gauge number	Display the inlet device pressure and monitor the right pressure point.
10.Cut-off the valve number	During normal operation, the valve is in an open state.
11.Discharge valve # I	During normal operation, the valve is closed; drain line device pressure.

12. Discharge valve No	During normal operation, the valve is closed; drain line device pressure.
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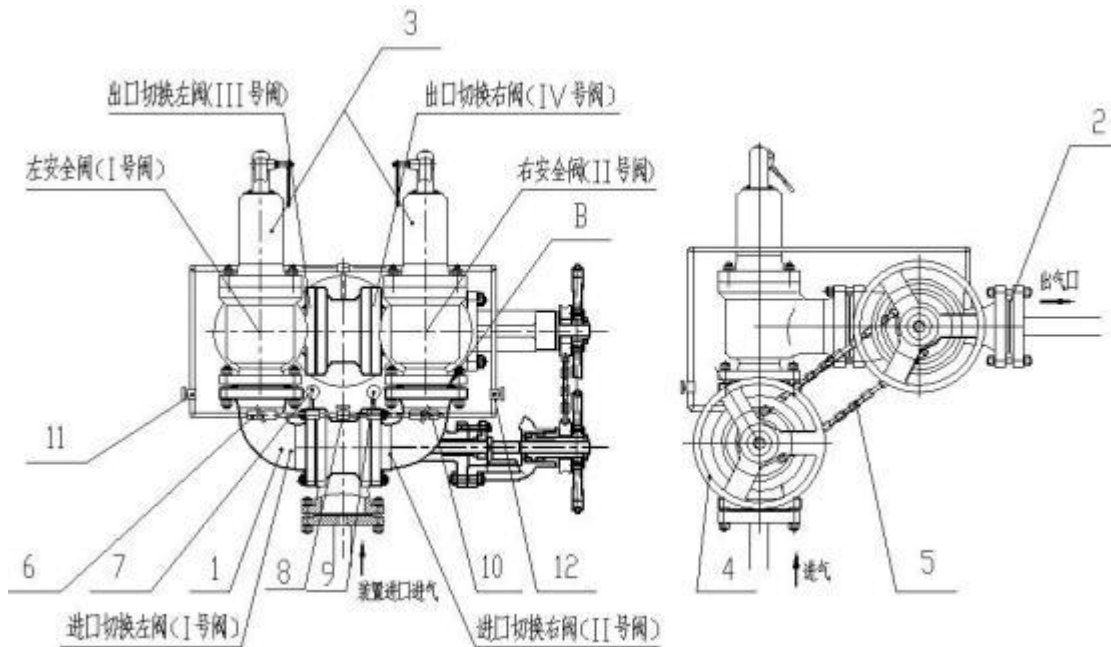
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- 5.4. The switching valve adopts the three-way type structure.
- 5.5. ch the valve body and the valve cover with MFM flange.
- 5.6 The switching valve and pipe are connected by T-face flange.
- 5.7. Switch the valve disc with plane sealing.

Vi. Working principle:

Import switch valve and outlet switch valve handwheel and sprocket are installed on the valve stem nut, hand wheel, sprocket and valve stem nut will turn together, a chain between two sprocket, through the chain, two switch valve sprocket and valve rod nut synchronous rotate, valve rod nut drive valve rod lift movement, valve rod drive valve disc, and two switch valve will do synchronous movement, open and close at the same time. This switching valve has a self-sealing structure: two close (left valve) and two open (right valve).



graph 4

1. The inlet switch valve	2. Exit switching valve	3. Safety valve
4. Handwheel	The chain	6, 10, cut-off valve
7, 9, the pressure gauge	8. Balance valve	11, 12, let-out valve

As shown in Figure 4, the switching valve has two sealing surfaces and only one seal and the other open. Hand wheel turn clockwise, the inlet switch valve open, I valve closed (bypass pipe valve number 9 pressure gauge work, number 10 is open state, number 8,12 is closed state, and number 6 is open state, number 7 pressure gauge down table zero, number 11 is open state, and the export pipeline connection),

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At the same time, the outlet switch valve is opened and the valve is closed. The safety valve number will protect it, while the safety valve number I will do nothing and can be replaced or removed for repair. Instead, the wheel counterclockwise direction, the inlet switch I valve open, valve closed (bypass pipeline valve number 7 pressure gauge work shows pressure value, number 6 is open state, number 8,11 is closed, and number 10 is open state, number 9 pressure gauge table down zero, number 12 is open state, and outlet pipeline connection is interlinked). At the same time, the outlet switch valve is opened and the valve is closed. Safety valve I will protect, while safety valve II will do nothing for backup or disassembly.

7. Main parts and materials (switching valve):

part name	Valve bod y val ve cov er	valve stem	valve clack	fillin g	bolt	nut
Carbon steel material configuration	WCB	304	304	black lead	B7	2H

eight. Installation, storage, and use (switching valve):

8.1 When the valve is stored for a long time, it should be placed in a dry and ventilated room, and both ends of the valve channel should be used

Cover blocking and paint anti-rust oil regularly.

8.2 Before installation, check whether the valve identification is consistent with the use requirements, and check the parts and components

Is it intact, and whether the fasteners are loose.

8.3 Eliminate and remove the defects and dirt caused during the transportation before the valve installation, however

It can be installed in the rear.

8.4 Valve lifting installation should be lifted in the two flange neck (or ring holes). It is strictly prohibited to lift the hand wheel or valve cap.

8.5. Close: rotate the hand wheel clockwise until the hand feels in place, the inlet and exit of the safety valve near the hand wheel will open, and the inlet and exit of the safety valve far away from the hand wheel are all closed and do not work.

8.6 Opening: rotate the hand wheel counterclockwise until the hand feels in place, the inlet and exit of the safety valve near the hand wheel is closed and does not work. The inlet and exit of the safety valve far away from the hand wheel are all open and will work.

Note: when open or close the switching valve, turn a hand wheel, can realize the two switching valve synchronous action, but due to the gap between the chain and sprocket, as well as slightly loose chain, relaxation phenomenon, it is recommended to tighten the other hand wheel, to eliminate the influence of clearance and relaxation, ensure that the inlet and outlet are tightly closed.

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8.7, the valve work, should often be applied in the trapezoidal thread and valve rod nuts, and the bearing parts of the oil lubrication;

8.8 It is strictly prohibited to use this valve as a throttle valve (except those with throttle), only allowed

Full open or full off state;

8.9. It is strictly prohibited to repair the valve with pressure or knock the valve everywhere;

nine. Possible faults and troubleshooting methods (switching valve):

fault phenomenon	analysis of causes	The exclusion method
The valve rod does not work	1, the surface of the rod and its coordination part is damaged or dirty. 2, too many switch times or the valve sealing surface has dirty 3. Lack of lubrication of the bearings	1. Open and repair to remove the dirt 2, open and clean, and remove the dirt 3. Bearing filling and roller skating oil
The valve flap is close to the valve body the title page of a thread-bound book Leakage between	1. The closing force is insufficient 2. The sealing surface has damage or dirt	1. Increase the pretension force 2. Retrim or grind the sealing surface and remove dirt
Valve rod packing place	1. The packing compaction force is not enough 2. The filler is used for too long time	1. Fill with the seal grease 2. Add or replace the fillers
Leakage at the middle channel flange junction	1. The middle flange bolts are loose 2, the gasket rupture or failure	1. Tighten the nut again and evenly 2. Replace the gaskets

X. User instructions (switching valve):

10.1 The selection of valve materials, the possibility of deterioration in use and the necessary periodic inspection are considered by the user.

10.2 General working conditions are considered only in the valve design. If there are special requirements, they shall be indicated in the contract.10.3 Only minor corrosion is considered. this valve is not applicable for serious or special corrosion.

10.4 The operating temperature range of the valve shall not exceed the provisions in Article 2.3. And the consequences caused by exceeding (including instantaneous) are entirely the responsibility of the user.

10.5 The maximum working pressure of the valve at the corresponding temperature shall not exceed the table specified in Article 2.4. The consequences of exceeding the range (including instantaneous) or using the pressure rating not corresponding to the temperature are entirely the responsibility of the user.

10.6. The applicable medium of this valve is listed in the Table of Article 2.3, and the consequences caused beyond this scope are entirely the responsibility of the user.

10.7 The body surface temperature during the operation of the valve may cause human contact and scald, so the user must set up warning signs in the corresponding parts.

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10.8. The valve shall not increase or replace the filler with pressure, and the upper sealing structure shall not be used as the reason for the user to replace the filler with pressure.

10.9 No welding repair and exterior paint during valve operation.

10.10. The valve shall not be removed under pressure.

10.11 The valve shall be matched according to the materials in Article 7 table during repair.

10.12. Life span calculation, test and fatigue strength check are not conducted in this valve design, and users must repair and replace it regularly in use.

10.13. The valve design does not consider the seismic load, and the manufacturer is not responsible for the consequences caused.