

SINTEK

VBF

New digital lock balance valve

Instructions



One、 Product introduction

The new digital locking balance valve produced by the company is a new type of energy-saving valve with special functions. Since the valve is provided with an opening digital display and a digital locking device, it can be intuitively adjusted to any position and a small pressure measuring valve for flow measurement.

The valve is mainly used in the heating pipe network system of industrial and civil buildings. With good flow characteristics, it can accurately adjust the pressure drop and flow, reasonably distribute the flow, realize the quantitative flow, and effectively solve the problem of uneven temperature in the heating (air conditioning) system. As long as all branches and user inlets are equipped with digital locking balance valves of appropriate specifications and locked after one-time commissioning with special intelligent instruments, the total water volume of the system is controlled within a reasonable range, thus overcoming the unreasonable phenomenon of "large flow and small temperature difference".

The application of this valve to achieve the liquid balance of the pipe network and save energy has achieved good results. This product is an ideal product in the heating system.

Table 1 Main technical performance

model	VBF-10/16Q	
Test pressure	1.5MPa	2.4MPa (24kgf/cm ²)
working pressure	≤1.0MPa	≤1.6MPa (24kgf/cm ²)
working temperature	-10℃~100℃	
Applicable media	water	
characteristic curve	Equal percentage	
Installation and use scope	Trunk, branch trunk, indoor water supply trunk, branch riser and multiple boilers of pipe network system	

Product standard

Design and manufacturing standards shall comply with bs350-1990;

Flange connection standard shall comply with GB / t17241.6-2008
integral cast iron flange;

BS7350The inspection and test standard shall comply with bs7350

The standard of wire connection shall comply with GB / t7306.1-7306.2

Main overall dimensions

DN	L	H	D	D1	n- ϕ d
32	215	270	140	100	4-19
40	215	270	150	110	4-19
50	215	275	165	125	4-19
65	240	280	185	145	4-19
80	280	300	200	160	8-19
100	310	330	220	180	8-19
125	320	340	250	210	8-19
150	390	500	285	240	8-23
200	460	585	340	295	12-23
250	540	610	405	355	12-28
300	595	750	460	410	12-28
350	695	930	520	470	16-28
400	775	1010	580	525	16-31

Three、 Usage

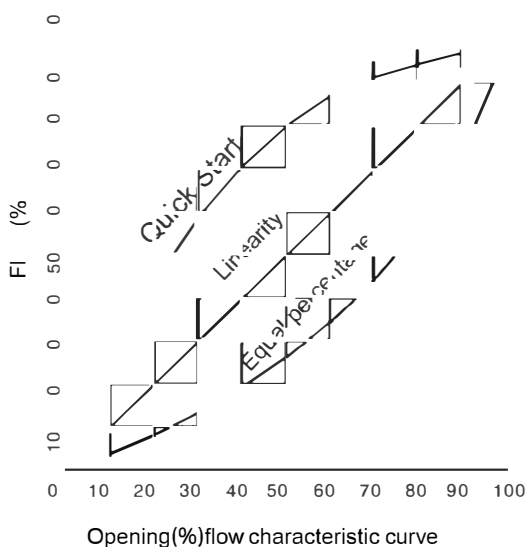
The structure adopts slash and dark lifting. It is composed of valve body, valve cover, valve plug, handwheel, digital display, locking device and test small valve. It has novel structure, flexible operation and good sealing performance. Its use method is as follows:

The digital display window of the valve is on the hand wheel. The dial is aligned with the number of the digital display window, which is the decimal of each circle (the circular disk on the hand wheel is the dial). The two digital display windows are side by side, and the number of turns on the top is shown. For example, when the digital display window of DN50 valve shows 1, the number on the dial is 0, which can be read as 2 circles; When "0" on the dial is aligned with "0" in the digital display window, the valve is fully closed.

When the valve is locked, insert the key (special) (set the device position) into the bolt on the side and tighten it clockwise to lock it. Counterclockwise rotation is to open it.

Small valves at the inlet and outlet of the valve for connecting the tester.

Four、 Characteristics and settings



The left figure shows the flow characteristic curve of various valves. The company produces valves with equal percentage characteristics. It can be seen from the curve that if the opening degree is given an equal change rate, the flow rate will be equal. The characteristic is that the opening degree is large, and the flow rate is small when the opening degree is small. However, most of the valves in the project are used when the flow is large. The equal percentage valves are applicable to these requirements. According to this characteristic, A certain flow rate can be set freely (linear valves with quick opening valves do not have this function), and when changes are required, the change amount can be known to reach the ideal state

Set up

The preset value can be read from the handwheel.

The total number of turns from full open to full close is as follows:

When 0 to 0, the valve is fully closed		
DN50	0 To 4	8 turns (full open)
DN65	0 To 4	8 turns (full open)
DN80	0 To 5	10 turns (full open)
DN100	0 To 6	12 turns (full open)
DN125	0 To 6	12 turns (full open)
DN150	0 To 6	12 turns (full open)
DN200	0 To 8	16 turns (full open)
DN250	0 To 8	16 turns (full open)
DN300	0 To 9	20 turns (full open)
DN350	0 To 9	24 turns (full open)
DN400	0 To 9	24 turns (full open)

Method of setting balance valve for the first time according to the given pressure difference (the preset value is 2.3 turn opening), and the steps are as follows:

- 1 completely close the valve (see Fig. 1).
2. Open the valve to 2.3 turns (see Fig. 2).
3. Tighten the side locking device clockwise with a hexagonal wrench.
4. Valve setting is completed.

How to check the preset value: first close the valve, then turn the handwheel until it stops. Turn the hand wheel until it stops. At this time, the reading is the preset value (2.3 turns in this example, see Figure 2)



Example: DN50
Fig. 1 Valve Fully Closed

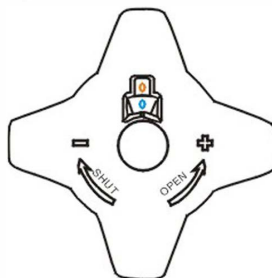
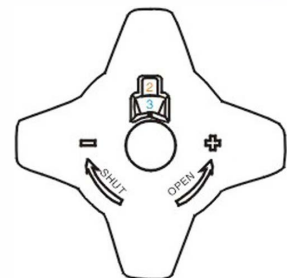


Fig. 2 The Valve Is Set At 2.3 Turn



Example: DN150
Fig. 1 Valve Fully Closed

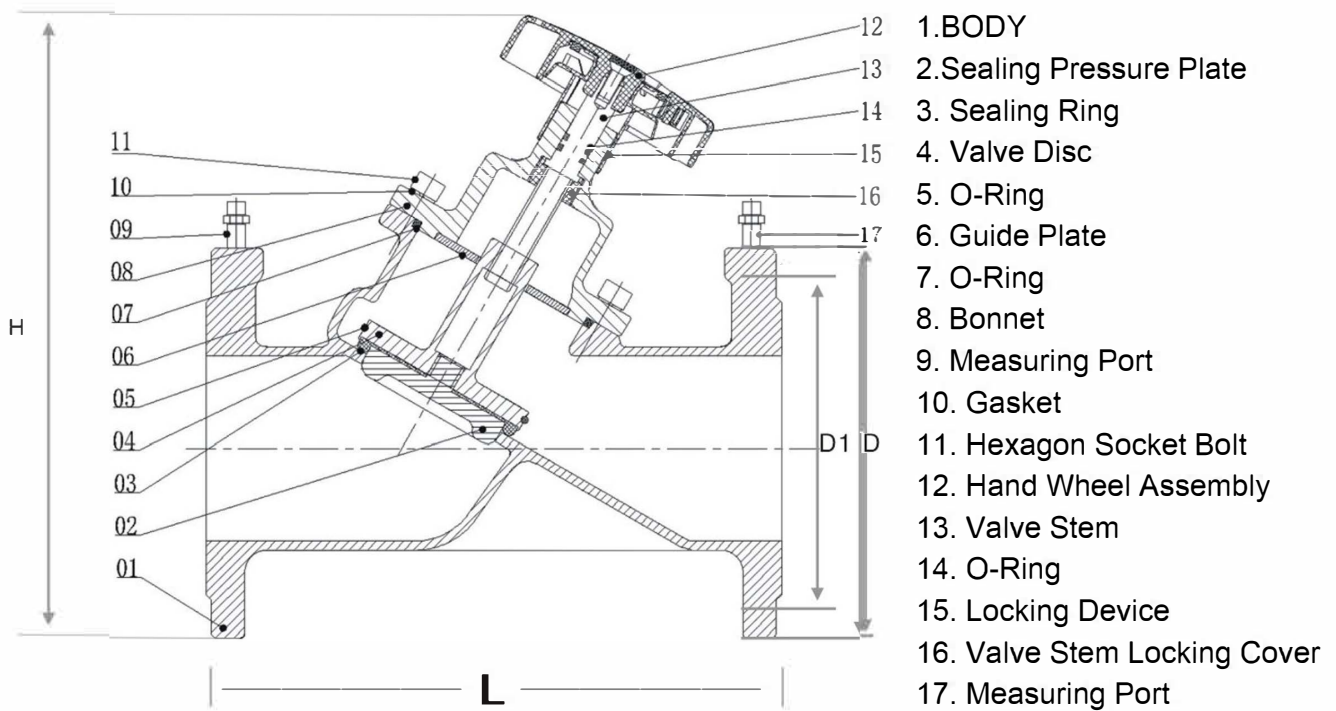


Fig. 2 The Valve Is Set At 2.3 Turn

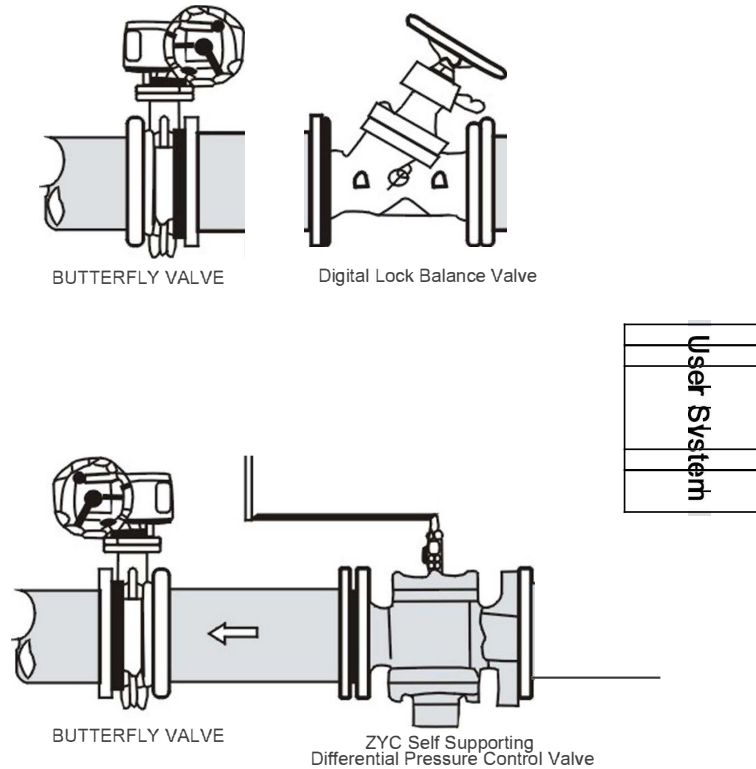


Five. Main Materials And Structure Sketchsage

Part Name	Material Name
BODY	QT450-10
Bonnet	QT450-10
Disc	QT450-10
Stem	2Cr13
Sealing Ring	EPDM
DN40-DN125 hand wheel	Polyamide and TPE thermoplastic elastomer materials
DN150-DN400 hand wheel	QT450-10



Six、 Typical Installation Diagram



Seven、 Installation

1. In order to ensure the rated output of the flow, the branch pipe section with sufficient length must be installed before and after the static balance valve;
2. The installation position of the static balance valve shall be checked according to the drawings. It is recommended to install it on the return water pipeline of the HVAC system. At the same time, the water flow direction of the pipeline shall be checked. The installation shall be in strict accordance with the water flow arrow direction on the valve body;
3. Before installation of the static balance valve, the pipeline sundries shall be cleaned. It is strictly prohibited to leave welding slag, branches, stones and other sundries in the pipeline to avoid damaging the valve;
4. The welding of pipe flange shall not cause excessive deformation, and the welding angle shall not affect the flatness of the sealing surface;
5. After the static balance valve is installed, the valve shall be fully opened so that the pipeline can be flushed repeatedly until it is clean. It is forbidden to close the valve repeatedly during the pipeline flushing to avoid damage.