

Vertical Indicator Post User Manual (IP)



Product Review

The vertical indicator posts are used to operate the switch of the non-rising stem gate valve buried underground or difficult to access, indicating the switch position of the valve, and the valve can be locked after the operation is completed; The indicator posts are mainly used to control the water supply valve of sprinkler system, flood, sprinkler, foam and riser system connected to the private fire protection system entering the building.

Working Principle

Use the L-type wrench to operate the operating nut to drive the stem to open and close the valve, and change the rotation movement into the lifting movement indicating the position through the thread, so as to display the opening and closing positions of the valve connected.

Product Characteristics

- Padlock anti-theft device
The indicator body is equipped with a "U" type locking device, which can lock the valve after operation to prevent random operation or disassembly of the valve column.
- Double-function L-type wrench
The wrench can operate the valve and lock the opening through the locking device.
- Easy installation
The trench depth can be adjusted according to needs, and it can be installed quickly on site.

Specification & Standard

Design Standard	UL789、FM1110
Connection Standard	UL789、FM1110
Coating Standard	ANSI/AWWA C550

Design & Dimensions

Design

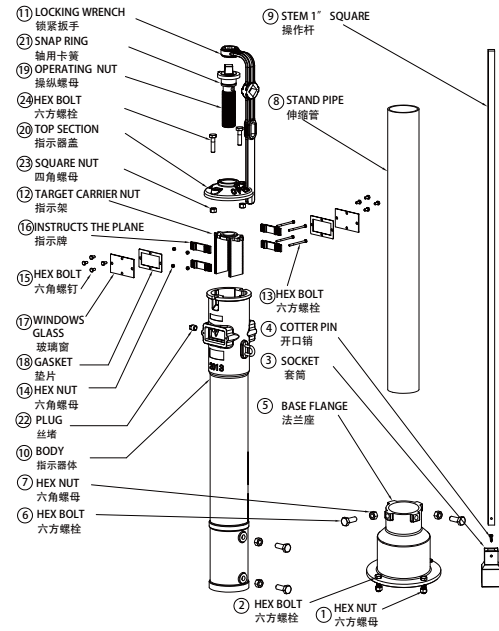


Figure 1 Product Structure

Table 1 Material List

Part NO.	Part	Standard Material	Optional Material
1	Hex Nut	Carbon Steel Zinc Plated	AISI 304、AISI 316、
2	Hex Bolt	Carbon Steel Zinc Plated	AISI 304、AISI 316、
3	Socket	ASTM A536, 65-45-12	
4	Cotter Pin	AISI 304	
5	Base Flange	ASTM A536, 65-45-12	
6	Hex Bolt	Carbon Steel Zinc Plated	AISI 304、AISI 316、
7	Hex Nut	Carbon Steel Zinc Plated	AISI 304、AISI 316、
8	Standpipe	Carbon Steel ASTM A53	
9	Stem 1" Square	Carbon Steel AISI 1045	
10	Body	ASTM A536, 65-45-12	
11	Locking Wrench	ASTM A536, 65-45-12	
12	Target Carrier Nut	AISI 304(4-16") HPb59-1(18-24")	
13	Hex Bolt	Carbon Steel Zinc Plated	AISI 304、AISI 316、
14	Hex Nut	Carbon Steel Zinc Plated	AISI 304、AISI 316、
15	Hex Bolt	Carbon Steel Zinc Plated	AISI 304、AISI 316、
16	Instructs the plane	ASTM A536, 65-45-12	
17	Window Class	Plexiglass	
18	Gasket	PTFE	
19	Operating NUT	AISI 304	
20	Top Section	ASTM A536, 65-45-12	
21	Snap Ring	Stainless Steel AISI1066	
22	Plug	Malleable iron Galvanized	
23	Square Nut	Carbon Steel Zinc Plated	AISI 304、AISI 316、
24	Hex Bolt	Carbon Steel Zinc Plated	AISI 304、AISI 316、

Trench Depth

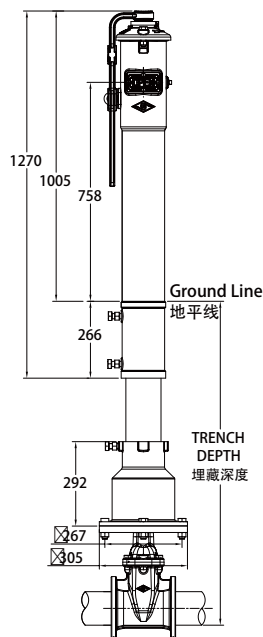


Figure 2

Table 2 Trench Dimensions

Size		Trench Depth (mm)	
		American Standard/ BS Type B	BS Type A / DIN
DN100	Min	1095	1069
	Max	1745	1719
DN150	Min	1210	1188
	Max	1860	1838
DN200	Min	1330	1414
	Max	1980	2064
DN250	Min	1438	1438
	Max	2088	2088
DN300	Min	1558	1534
	Max	2208	2184
DN350	Min	1797	1797
	Max	2447	2447
DN400	Min	1798	1798
	Max	2448	2448
DN450	Min	1974	1974
	Max	2624	2624
DN500	Min	2022	2022
	Max	2672	2672
DN600	Min	2234	2234
	Max	2884	2884

Note:

- The vertical indicator posts are only applicable to NRS gate valves with 2 "/51 mm AWWA square nuts.
- The trench depth is only applicable to the vertical indicator posts installed on the NRS gate valves of MECH brand. If the NRS gate valves of other manufacturers are used, these dimensions may vary.

Installation & Application

1. Preparation before installation

Please read the instructions carefully before installation. The manufacturer does not accept liability for the damage caused by improper installation.

2. Installation steps and precautions

- Remove two bolts and nuts from the top section of the indicator (Figure 3).



Figure 3

- Remove the upper cover assembly from the body (Figure 4).



Figure 4

- Loosen the fixing bolts and nuts of each SHUT (Figure 5), but do not remove the nuts.
Note: the OPEN fixing bolts and nuts do not need to be adjusted.

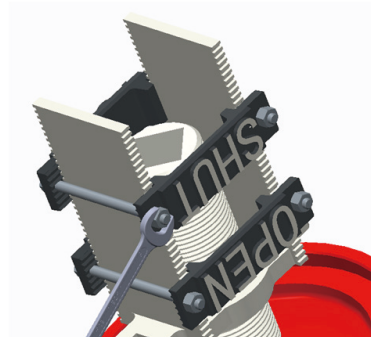


Figure 5

- Adjust the distance (number of teeth) between SHUT and OPEN, as shown in Figure 6, to ensure that the two "SHUT" planes are evenly located on both sides of the target frame. See Table 3 for specific specifications and the number of teeth.

(Note: for bulge and groove, calculate 1 rectangular tooth respectively, and the tooth width is 2mm)

Table 3

Size NPS	Number of rectangular teeth exposed between SHOU and OPEN		
	American Standard / BS Type B	BS Type A	DIN
4	2	8	8
5	3	3	3
6	6	18	18
8	12	28	28
10	18	18	30
12	24	24	38
14	32	32	32
16	37	37	37
18	25	25	25
20	30	30	30
24	38	38	38

Note: These dimensions are only applicable to the vertical indicator posts installed on the NRS gate valves of MECH brand. If NRS gate valves of other manufacturers are used, these dimensions may be different. These distances are approximate values and must be verified after being installed with the gate valve.

Instructs the planes shall be perpendicular to the target carrier nut after assembly. The two planes on the same side should be parallel, the letters of the planes fixed by the same bolts should be consistent, and the distance between the two planes and the upper end face of the target carrier nut should be consistent (the number of exposed teeth is the same).

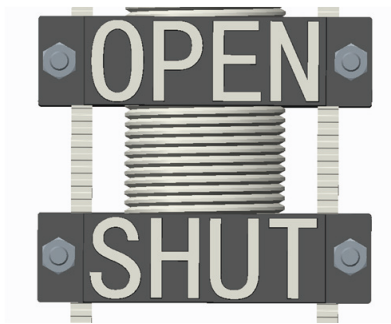


Figure 6

2.5 After the adjustment, tighten the nuts of each SHUT. Be careful not to over-tighten the nuts (Figure 7).

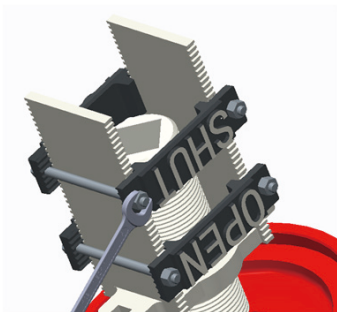


Figure 7

2.6 Turn the stem to ensure that the distance between the top of the OPEN plane and the machined surface in the cover is 144mm, as shown in Figure 8 below.

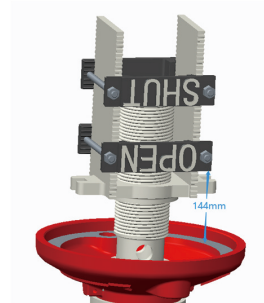


Figure 8

2.7 Install the indicator body, stand pipe and base flange assembly on the gate valve and lock it with the 4 bolts and nuts provided. Note: Make sure that the gate valve is fully open before installation.

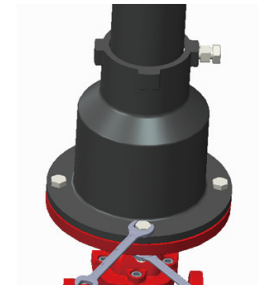


Figure 9

2.8 Loosen the two bolts and nuts which fix the indicator body and stand pipe, and adjust the ground line of the indicator body to be flush with the ground according to the trench depth.

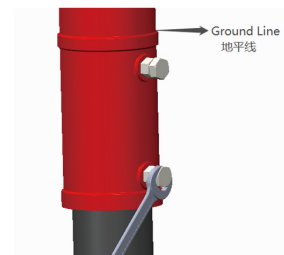


Figure 10

2.9 While ensuring that the indicator body is flush with the ground, tighten the bolts and lock nuts to fix the indicator body on the stand pipe (see Figure 11).

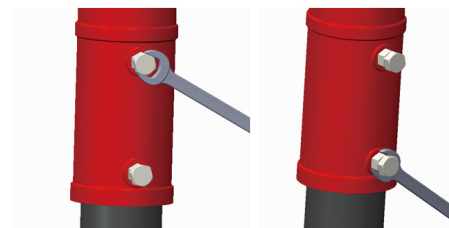


Figure 11

- 2.10 Put the stem and socket assembly into the indicator body (see Figure 12), place the socket on the square operating nut of the gate valve, and ensure that the socket and the square operating nut are engaged.

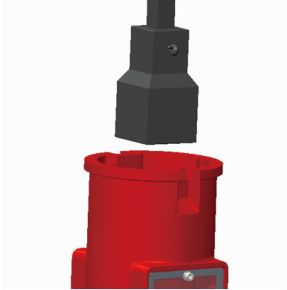


Figure 12

- 2.11 As shown in Figure 13, mark the inside of the indicator body at 50mm from the top, and cut off the stem at the mark. **Note: if the stem is removed from the body in order to cut it to a proper length, please ensure that the stem is fully engaged with the operating nut of the valve during reinstallation.**

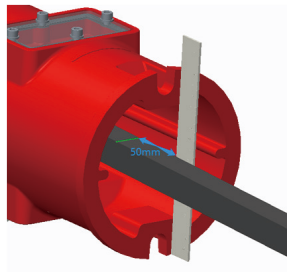


Figure 13

- 2.12 Reinstall the complete upper cover assembly onto the indicator body. **Note: since the gate valve is in the open state, the OPEN plane must be displayed in the indicator body window after installation, as shown in Figure 14.**



Figure 14

- 2.13 Reinstall and tighten the two bolts / nuts.



Figure 15

- 2.14 Use the operating wrench to fully open and close the valve once, and check whether the indicator works normally. When the valve is in the fully open position, verify that the "OPEN" plane is fully visible in the window. When the valve is in the fully closed position, verify that the "SHUT" plane is fully visible in the window.



Figure 16

- 2.15 Reinstall the operating wrench on the indicator. If necessary, lock the wrench to the position shown in the figure.



Figure 17

3. If necessary, the supervisory switch can be installed on the vertical indicator posts. For installation and operation instructions, please refer to our supervisory switch for indicator post user manual.

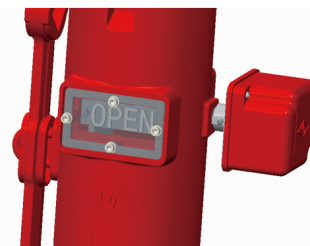


Figure 18

Transportation & Storage

1. The indicator shall be firmly fixed in the packing box to prevent the indicator from moving up and down during transportation.
2. The indicator shall be protected from rain and moisture during transportation and shall be handled with care.
3. The indicator shall be stored in a well-ventilated and dry room, and placed neatly. It shall not be stored together with articles liable to cause corrosion.
4. In order to prevent the operating wrench from being damaged by collision during transportation, the operating wrench and the body shall be separated by cardboard and fixed with packing tape.

Maintenance

1. It is recommended to carry out a visual inspection procedure once a month to check the following items:

1.1 The indicator body and window are not damaged.

1.2 The valve indicated is open.

1.3 The indicator is correctly displayed in the "OPEN" position.

2. It is recommended to lock the indicator for operating the water control valve of the fire protection system at the fully open position (as shown in Figure 17).

3. The indicator should be closed two turns a quarter and then reopened to verify that the indicator is in the fully open position. Any damaged parts must be replaced immediately. If there are any damaged parts, signs of tampering, or problems with the position of the valve, the indicator should also be physically tested to ensure that the valve is in the fully open position. In case of temperature and pipeline pressure changes, it is recommended that the bolts should be tightened again after the valve works for 24 hours to compensate for any looseness that may occur.

Note: Before closing the main valve of the fire protection system for maintenance of the indicator or the fire protection system controlled by it, the permission of the relevant department must be obtained before closing the affected fire protection system. The relevant authorities and all personnel who may be affected by this decision must be notified.

It is recommended that the fire protection system be inspected by a qualified inspection institution.