

INSTALLATION, OPERATION, and MAINTENANCE GUIDE

NIBCO Adjustable Height Upright Indicator Posts

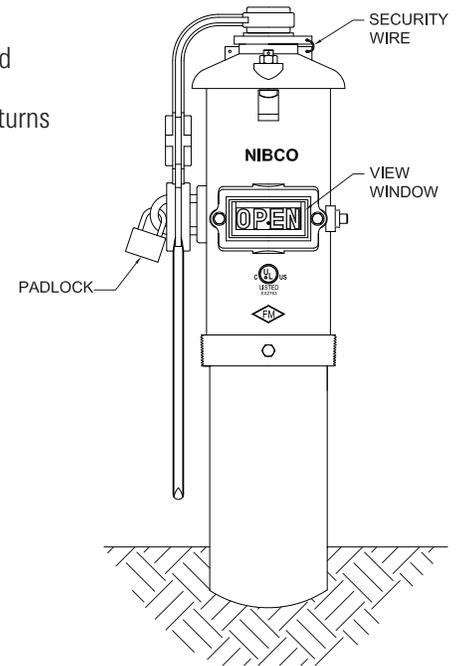
Series NIP-1AU

NIBCO Series NIP-1AU Adjustable Height Indicator Posts are designed and manufactured to:

- Operate non-rising stem (NRS) post indicator valves (PIV) that are buried underground
- Operate multi-turn post indicator valves (PIV) with an operating range from 10 to 50 turns
- Visually indicate if the underground valve is in the OPEN or SHUT position
- Provide a means to lock the valve into a desired position (usually OPEN)

NIBCO Indicator Posts are listed by Underwriters Laboratories Inc. (UL), Underwriters Laboratories Inc. for use in Canada (C-UL), and approved by Factory Mutual Research Corp. (FM).

It is important to follow the instructions below to assure proper installation and safe trouble-free operation. Failure to follow these instructions may result in reduced product performance and may cause loss of manufacturer's warranty.



1. Application

- 1.1 NIBCO Indicator Posts are primarily used with multi-turn non-rising stem (NRS) post indicator valves (PIV) controlling water supplies to sprinkler, deluge, water spray, foam, and standpipe systems used in fire protection service.
- 1.2 NIBCO Indicator Posts are designed for outdoor service and are coated with electrostatically applied fusion bonded epoxy resin to resist corrosion.
- 1.3 NIBCO Upright Indicator Posts have a 20" adjustment range, and can be ordered to accommodate various bury depths.
- 1.4 NIBCO Indicator Post view targets are adjustable to accommodate valves of various sizes.
- 1.5 NIBCO Indicator Posts are shipped for use with "left-hand" (counter-clockwise) opening valves.
- 1.6 NIBCO Indicator Posts are designed to allow the attachment of a Control Valve Supervisory Switch for electronic monitoring of the OPEN valve position. Simply follow the instructions provided with the Supervisory Switch for proper installation and operation.
- 1.7 NIBCO Upright Indicator Posts are designed to mate and bolt directly to the Post Indicator Valve (PIV) flange; four ¾" holes on a 10½" diameter bolt circle.
- 1.8 Indicator Posts should be inspected on a regular basis.

2. Indicator Post Selection

2.1 NIBCO Indicator Posts are designed to work with 4" thru 16" size NIBCO Resilient Wedge Gate Valves (RWGVs) and 4" thru 12" sizes NIBCO Iron Body Bronze Mounted (IBBM) Gate Valves. See Table 1 and Fig. 1 for valve dimensional data. They will also work with any manufacturers non-rising stem Post Indicator Valve (PIV) that operates from 10 to 50 turns, and a maximum operating torque of 900 ft.-lbs.

DIMENSIONAL DATA FOR NIBCO RWGV AND IBBM GATE VALVES

VALVE SIZE	NIBCO RESILIENT WEDGE GATE VALVES (RWGV)							NIBCO IRON BODY BRONZE MOUNTED GATE VALVES (IBBM)						
	TURNS TO OPEN	A		B		1/2 PIPE OD		TURNS TO OPEN	A		B		1/2 PIPE OD	
		INCH	MM	INCH	MM	INCH	MM		INCH	MM	INCH	MM	INCH	MM
4"	13	13.46	342	10.12	257	2.40	61	9	14.13	359	10.47	266	2.40	61
6"	15.7	17.01	432	13.78	350	3.45	88	13.5	18.54	471	16.30	414	3.45	88
8"	17.3	20.47	520	17.32	440	4.53	115	17.5	22.13	562	18.11	460	4.53	115
10"	21.4	23.82	605	20.71	526	5.50	140	30.3	25.75	654	21.89	556	5.50	140
12"	25.3	27.01	686	23.86	606	6.60	168	38.3	29.49	749	24.57	624	6.60	168
14"	44	31.81	808	28.58	726	7.65	194							
16"	50	34.21	869	30.98	787	8.70	221							

Table 1

2.2 For Upright Indicator Posts, four Figure No. options are available. See Table 2.

- NIP-1AU, Standard height
- NIP-1AU E, Extended height
- NIP-1AU EE, Double extended height
- NIP-1AU EEE, Triple extended height

See Table 2 for adjustable height ranges, and Table 3 for Bury Depths.

NIBCO UPRIGHT INDICATOR POST ADJUSTABLE HEIGHT RANGE

ADJUSTABLE HEIGHT RANGE	NIP-1AU		NIP-1AU E		NIP-1AU EE		NIP-1AU EEE	
	H*		H		H		H	
	INCH	MM	INCH	MM	INCH	MM	INCH	MM
MINIMUM	16	406	34	864	52	1321	70	1778
MAXIMUM	36	914	54	1372	72	1829	90	2286

Table 2

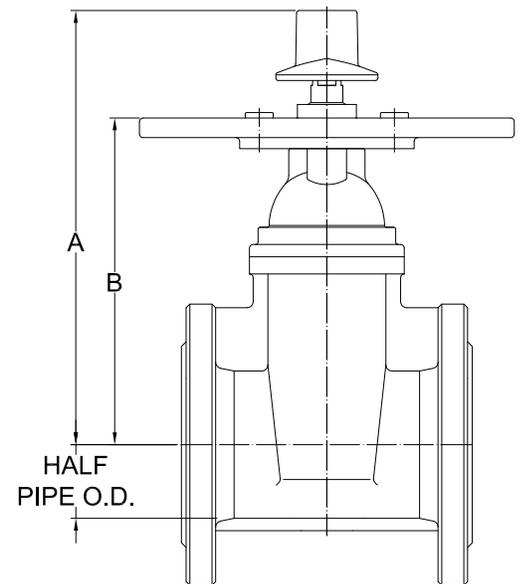


Fig. 1

*For dimension "H" see Fig. 3

Table 3 NIBCO UPRIGHT INDICATOR POST VALVE BURY DEPTH

VALVE SIZE	*ROUNDED ADJUSTABLE BURY DEPTH RANGE	NIBCO RESILIENT WEDGE GATE VALVES (RWGV)								NIBCO IRON BODY BRONZE MOUNTED GATE VALVES (IBBM)							
		NIP-1AU		NIP-1AU E		NIP-1AU EE		NIP-1AU EEE		NIP-1AU		NIP-1AU E		NIP-1AU EE		NIP-1AU EEE	
		BURY DEPTH		BURY DEPTH		BURY DEPTH		BURY DEPTH		BURY DEPTH		BURY DEPTH		BURY DEPTH		BURY DEPTH	
		INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
4"	MINIMUM	28	724	46	1181	64	1638	82	2095	29	733	47	1190	65	1647	83	2104
	MAXIMUM	48	1232	66	1689	84	2146	102	2603	49	1241	67	1698	85	2155	103	2612
6"	MINIMUM	33	844	51	1301	69	1758	87	2215	36	908	54	1365	72	1822	90	2279
	MAXIMUM	53	1352	71	1809	89	2266	107	2723	56	1416	74	1873	92	2330	110	2787
8"	MINIMUM	38	961	56	1418	74	1875	92	2332	39	981	57	1438	75	1895	93	2352
	MAXIMUM	58	1469	76	1926	94	2383	112	2845	59	1489	77	1946	95	2403	113	2860
10"	MINIMUM	42	1072	60	1529	78	1986	96	2443	43	1102	61	1559	79	2016	97	2473
	MAXIMUM	62	1580	80	2037	98	2494	116	2951	63	1610	81	2067	99	2524	117	2981
12"	MINIMUM	46	1180	64	1637	82	2094	100	2551	47	1198	65	1655	83	2112	101	2569
	MAXIMUM	66	1688	84	2145	102	2602	120	3059	67	1706	85	2163	103	2620	121	3077
14"	MINIMUM	52	1326	70	1783	88	2240	106	2697								
	MAXIMUM	72	1834	90	2291	108	2748	126	3205								
16"	MINIMUM	56	1414	74	1871	92	2328	110	2785								
	MAXIMUM	76	1922	94	2379	112	2836	130	3293								

* INCH DIMENSIONS SHOWN ARE ROUNDED TO THE NEAREST INCH

3. Installation of Upright Style Indicator Post

- 3.1 Fully OPEN the gate valve to which the Indicator Post is being attached.
- 3.2 Loosen but do not remove 2 Body Bolts (35) 3 turns. Remove Barrel (32) and Body Base (31) from inside Center Body (30). Remove Operating Rod (26) from Indicator Post by sliding it out the bottom, See Fig. 2.
- 3.3 Position Body Base (31) on top of buried valve PIV plate and secure with 4 customer supplied bolts, washers, & nuts, See Fig. 3.
- 3.4 Remove Bolt (28), Flatwasher (38), and Lockwasher (39) from Upper Body (1) and lift Head Assembly from Center Body (30).
- 3.5 Slide Center Body (30) over Barrel (32) and slide down until BURY line cast on Center Body is even with planned finished grade soil level. Securely tighten 2 Body Bolts (35). See Fig. 2 & 3.
- 3.6 Insert 1" square Operating Rod (26) with attached Coupling (25) inside Barrel (32) and fully engage Coupling onto Operating Nut of valve as shown in Fig. 3. Mark Operating Rod at a distance 10¼" from top edge of Center Body (30), See Fig. 4. Remove Operating Rod (26) from Barrel (32) and cut off the top section of the 1" square Rod at location you just marked. Remove any sharp edges from the Rod with a file.
- 3.7 Reinstall the shortened Operating Rod (26) into Barrel (32), making sure the Coupling (25) is fully engaged on Operating Nut of valve, See Fig. 3.
- 3.8 Reinstall the Head Assembly by sliding the 1" square pocket located in bottom side of Head Assembly onto Operating Rod (26). Secure Head Assembly to Center Body (30) with Screw (28), Flatwasher (38), and Lockwasher (39).

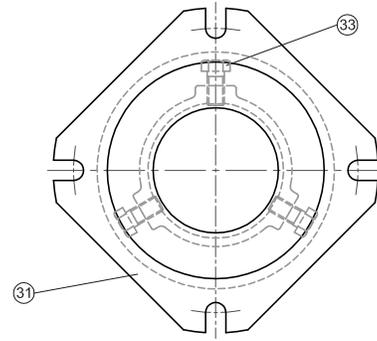
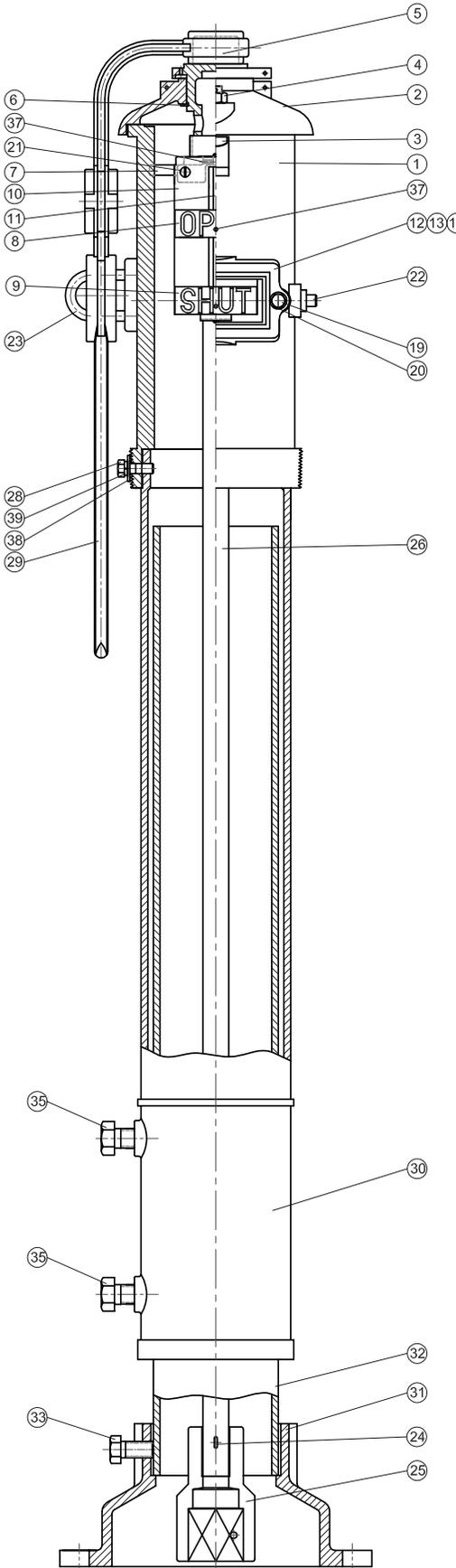


Table 4

UPRIGHT STYLE INDICATOR POST PARTS LIST

NO.	DESCRIPTION	MATERIAL	SPECIFICATION	QTY.
1	UPPER BODY	DUCTILE IRON	ASTM A536 Gr. 65-45-12	1
2	CAP	DUCTILE IRON	ASTM A536 Gr. 65-45-12	1
3	T-HEAD BOLT, CAP	STEEL, ZINC PLATED	ASTM A105	2
4	NUT, CAP	STEEL, ZINC PLATED	ASTM A105	2
5	OPERATING STEM	BRONZE	ASTM B584 C84400 / B62 C83600	1
6	RETAING RING, STEM	STAINLESS STEEL	ASTM A276 S30400	1
7	LEADING BOGIE	BRONZE	ASTM B584 C84400 / B62 C83600	1
8	TARGET PLATE, OPEN	ALUMINUM	ASTM B26	2
9	TARGET PLATE, SHUT	ALUMINUM	ASTM B26	2
10	EXTENSION PLATE	STEEL, PAINTED BLACK	ASTM A1008	2
11	TARGET ROD	BRASS	ASTM B16 C36000	2
12	VIEW WINDOW	POLYCARBONATE	COMMERCIAL	2
13	GASKET, WINDOW	RUBBER	ASTM D2000 EPDM	2
14	GUARD, WINDOW	CAST IRON	ASTM B124 Gr. B	2
19	SCREW, HEX HEAD CAP	STAINLESS STEEL	S30400	4
20	WASHER	STAINLESS STEEL	S30400	4
21	SCREW, SLOTTED FLAT HD.	STAINLESS STEEL	S30400	4
22	PLUG, 1/2" PIPE	STEEL, ZINC PLATED	COMMERCIAL	1
23	U-BOLT	FORGED STEEL	ASTM A105	1
24	COTTER PIN	STAINLESS STEEL	S30400	1
25	COUPLING, OPERATING ROD	DUCTILE IRON	ASTM A536 Gr. 65-45-12	1
26	OPERATING ROD	STEEL	ASTM A105	1
28	SCREW, HEX HEAD CAP	STAINLESS STEEL	S30400	1
29	WRENCH, OPERATING	DUCTILE IRON	ASTM A536 Gr. 65-45-12	1
30	CENTER BODY	DUCTILE IRON	ASTM A536 Gr. 65-45-12	1
31	BASE BODY	DUCTILE IRON	ASTM A536 Gr. 65-45-12	1
32	BARREL	DUCTILE IRON	ASTM A536 Gr. 65-45-12	1
33	SCREW, HEX HEAD CAP	STAINLESS STEEL	S30400	3
35	SCREW, HEX HEAD CAP	STAINLESS STEEL	S30400	2
37	SCREW, SOCKET HD. SET	STAINLESS STEEL	S30400	6
38	WASHER, FLAT	STAINLESS STEEL	S30400	1
39	WASHER, LOCK	STAINLESS STEEL	S30400	1

Fig. 2

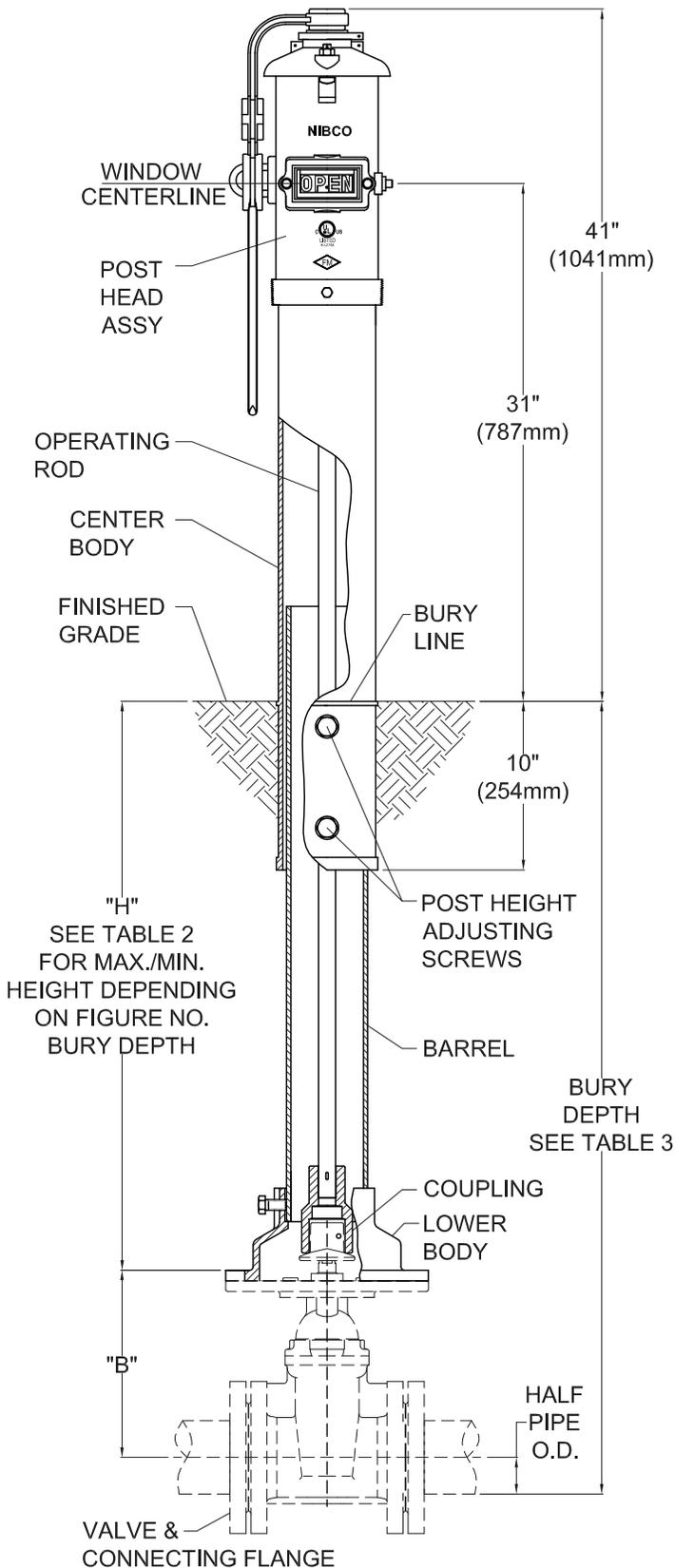


Fig. 3

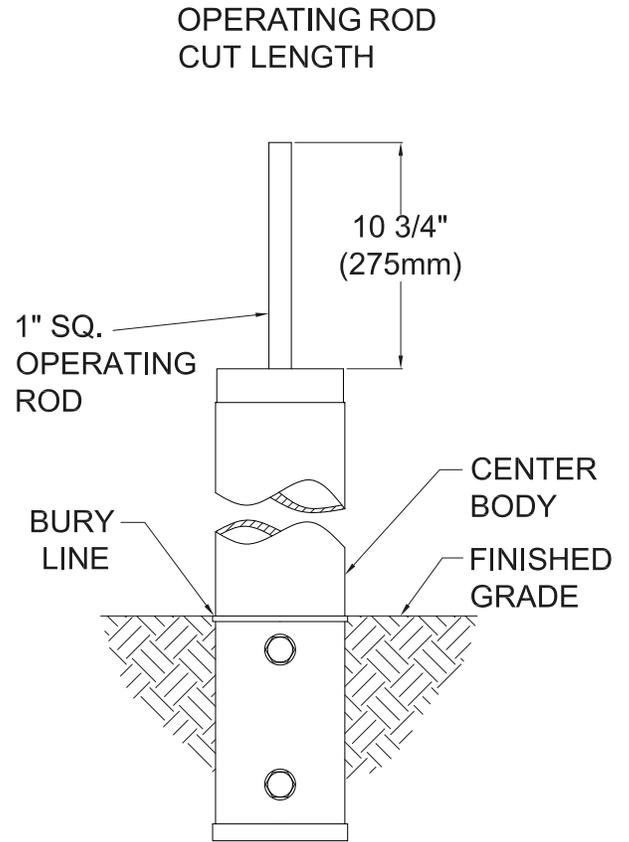


Fig. 4

4. OPEN and SHUT Target Adjustment

- 4.1 All NIBCO Indicator Posts are shipped for use with "left-hand" (counter-clockwise) opening valves.
- 4.2 Remove two Nuts (4) and two T-Head Bolts (3) that secure Cap (2) to Indicator Post. See Fig. 2.
- 4.3 Grasp Cap (2) and remove from Indicator Post by lifting upward until Target assembly is clear.
- 4.4 Target Plates (8 & 9) must be positioned with the OPEN Plate (8) above the SHUT Plate (9) for "left-hand" (counter-clockwise) opening valves. See Fig. 5.

Table 5

TARGET ASSEMBLY PARTS LIST

NO.	DESCRIPTION	MATERIAL	SPECIFICATION	QTY.
7	LEADING BOGIE	BRONZE	ASTM B584 C84400 / B62 C83600	1
8	TARGET PLATE, OPEN	ALUMINUM	ASTM B26	2
9	TARGET PLATE, SHUT	ALUMINUM	ASTM B26	2
10	EXTENSION PLATE	STEEL, PAINTED BLACK	ASTM A1008	2
11	TARGET ROD	BRASS	ASTM B16 C36000	2
21	SCREW, SLOTTED FLAT HD.	STAINLESS STEEL	S30400	4
37	SCREW, SOCKET HD. SET	STAINLESS STEEL	S30400	6

TARGET ASSEMBLY

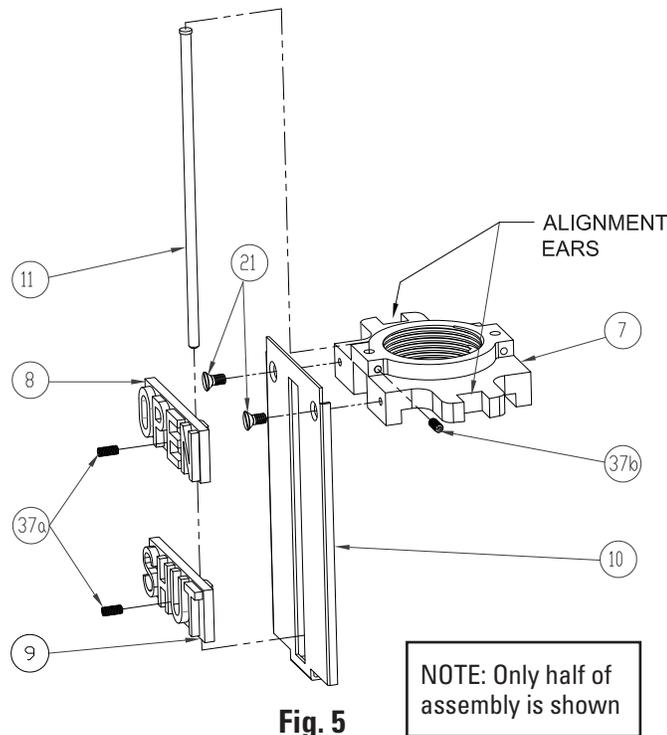


Fig. 5

- 4.5 Position OPEN Target Plates (8) so they are in the full upward position for “left-hand” (counter-clockwise) opening valves. Secure OPEN Target Plates (8) by tightening Screws (37a). See Fig. 6.
- 4.6 Determine the number of turns required to fully open the valve. See Table 1 for NIBCO valves. You should always confirm actual turns required to open the valve by counting them.
- 4.7 Using Table 6, choose the closest “Number of Turns to Open Valve” and the corresponding “Distance Between Targets” dimension “X”.
- 4.8 Measure and position both SHUT Target Plates (9) at dimension “X” from OPEN Target Plates (8). See Fig. 6.
- 4.9 Secure both SHUT Target Plates (9) by tightening Screws (37a) with an Allen wrench.

Table 6

ADJUSTMENT OF TARGET PLATES

NUMBER OF TURNS TO OPEN VALVE	DISTANCE BETWEEN TARGETS	
	X	
	INCH	MM
10	0.000	0.0
11	0.050	1.3
12	0.150	3.8
13	0.250	6.4
14	0.350	8.9
15	0.450	11.4
16	0.550	14.0
17	0.650	16.5
18	0.750	19.1
19	0.850	21.6
20	0.950	24.1
21	1.050	26.7
22	1.150	29.2
23	1.250	31.8

NUMBER OF TURNS TO OPEN VALVE	DISTANCE BETWEEN TARGETS	
	X	
	INCH	MM
24	1.350	34.3
25	1.450	36.8
26	1.550	39.4
27	1.650	41.9
28	1.750	44.5
29	1.850	47.0
30	1.950	49.5
31	2.050	52.1
32	2.150	54.6
33	2.250	57.2
34	2.350	59.7
35	2.450	62.2
36	2.550	64.8
37	2.650	67.3

NUMBER OF TURNS TO OPEN VALVE	DISTANCE BETWEEN TARGETS	
	X	
	INCH	MM
38	2.750	69.9
39	2.850	72.4
40	2.950	74.9
41	3.050	77.5
42	3.150	80.0
43	3.250	82.6
44	3.350	85.1
45	3.450	87.6
46	3.550	90.2
47	3.650	92.7
48	3.750	95.3
49	3.850	97.8
50	3.950	100.3
51	4.050	102.9

POSITIONING OF OPEN TARGET PLATES FOR VIEW WINDOW

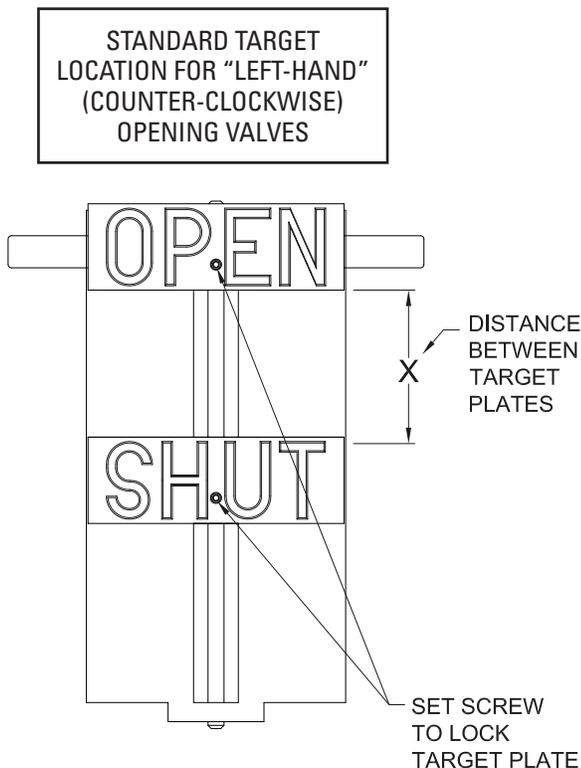


Fig. 6

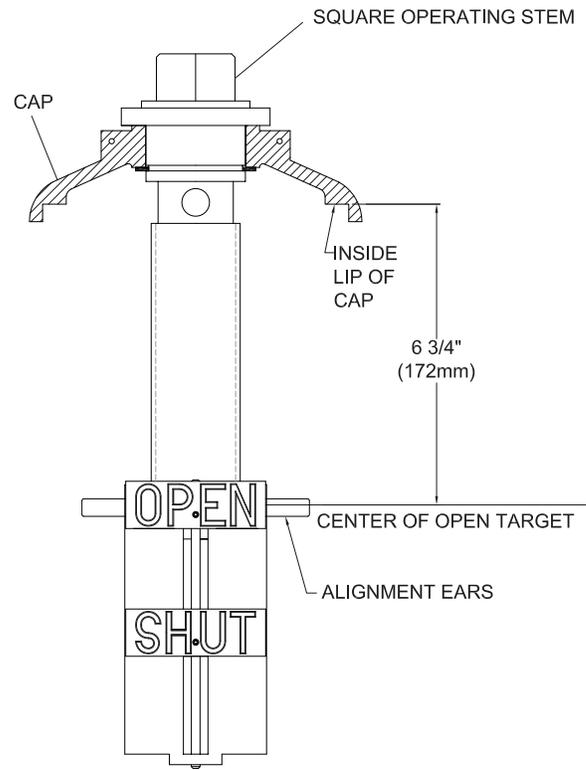


Fig. 7

6. Positioning of Targets in View Window

- 6.1 Rotate Square Operating Stem (5) positioning the center of the OPEN Target Plate (8) until it is located 6¾" from the inside lip of Cap (2). See Fig. 7.
- 6.2 Verify that the valve is in full OPEN position.
- 6.3 Reinstall the Cap (2) & Target assembly into the Upper Body (1) making sure both alignment ears on bronze Leading Bogie (7) straddle the guides cast on the inside of the Upper Body. See Fig. 2.
- 6.4 Reinstall 2 T-Head Bolts (3) in Cap and secure with 2 Nuts (4).
- 6.5 Check to assure that the OPEN Target Plate (8) is centered in both sides of the view window.

7. Operation

- 7.1 The post indicator valve (PIV) can be opened or shut by simply placing the Operating Wrench (29) onto Operating Stem (5) and rotating in the desired direction. To open the valve, simply turn the wrench in the counter-clockwise direction as indicated on Cap (2). To shut the valve, simply turn the wrench in the clockwise direction. See Fig. 2.
- 7.2 The Target Plates (8) (9) can be visually checked in the view windows to determine if PIV is open or shut.
- 7.3 After installation, the PIV should be cycled to the full shut position and both view windows should be visually inspected to assure the SHUT target plates are centered. The PIV should then be cycled to the full open position and both view windows should be visually inspected to assure the OPEN target plates are centered.
- 7.4 Valve position can be secured by simply placing the Operating Wrench (29) over the Operating Stem (5) and over U-bolt (23). A customer supplied lock can be installed into the U-bolt securing Operating Wrench to the indicator post, preventing valve operation.
- 7.5 NIBCO Indicator Posts have provisions to add a Security Wire thru the Cap T-bolts (3) and Operating Stem (5) to prevent valve operation.

8. Maintenance

- 8.1 Lubrication should be added to oil hole located in top of Operating Stem (5) on an annual basis. Note: it is necessary to remove the Operating Wrench (29) to expose the oil hole.
- 8.2 Periodic visual inspection is recommended.
- 8.3 Exercising (cycling) of the valve to assure proper function is recommended.

9. Repair Parts

- 9.1 Some specialty components are available for replacement if needed. See Table 7.
- 9.2 Common fasteners such as nuts, bolts, and washers are available at your local hardware.

Table 7

REPAIR PARTS ADJUSTABLE HEIGHT UPRIGHT STYLE

NO.	DESCRIPTION	PART NO.
3	T-HEAD BOLT	NP1AU10
12	VIEW WINDOW	NP1AU06
13	WINDOW GASKET	NP1AU09
14	WINDOW GUARD	NP1AU07
24	COTTER PIN	NP1AU21

NO.	DESCRIPTION	PART NO.
25	OPERATING ROD COUPLING	NP1AU22
26	OPERATING ROD 72"	NP1AU16
26	OPERATING ROD 90"	NP1AU16E
26	OPERATING ROD 108"	NP1AU16EE
26	OPERATING ROD 126"	NP1AU16EEE
29	OPERATING WRENCH	NP1AU17