

Please before you operate your product –be sure to read this booklet and the “903 series electric actuators manual” carefully. They contain the explosion-proof features and construction, wiring method, cautions and instructions on the installation, testing, and maintenance of the units. So they can help you become thoroughly familiar with the proper use of the operating controls.

### ■ Explosion-proof Features and Construction

903 series explosion-proof electric actuators conforms to Std GB3836.1-2000 and Std GB3836.2-2000. The explosion-proof case consists of explosion-proof parts can bear the press produced by the mixture of explosive gases and prevent the explosive from spreading.

### ■ Explosion-proof Grade

Explosion-proof Grade: Exd II BT4

Notes: Ex——Ex-proof mark

d——Ex-proof type

II——apply to circumstances of mixture of explosive gases (exclude coal mine)

B——max. Testing security gap of the explosive mixture is class B

T4——max. Surface temperature permitted of electrical equipment. T4 is 135℃

**Note:** 903 series explosion-proof electric actuators must be used in the circumstances permitted. The consumer may consult the appendix B in Std GB3836.1-2000 if necessary.

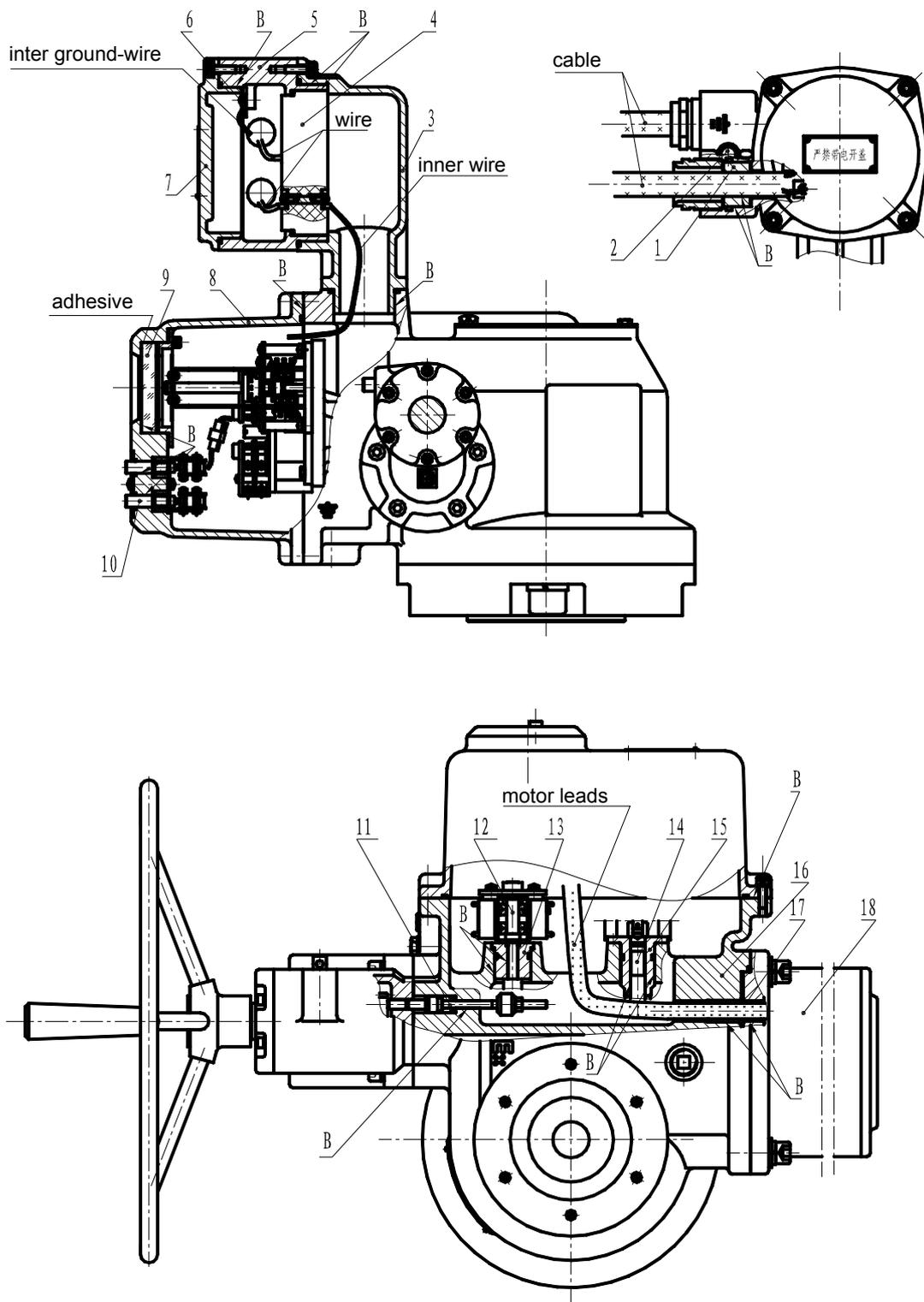
### ■ Cautions

- Do not open the case or remove the motor without shutting off all power.
- Do not dismount the indication window. Do not hit the glass with hard things for it is brittle, the consumer

may purchase a new one if it is damaged. The explosion-proof surface of the glass must be cleaned, glued with the cover, and located firmly.

- For actuators with control package, if the adhesive in the counter bore of the interim plate is damaged, please reseal with the same adhesive.
- Do not lose the nameplate and warning brand in your product, the character on them is not permitted be worn and covered by paint.
- After your product is examined and repaired, The ex-proof mark “Ex” should be painted in red color if necessary.
- Do not knock and injure the interface (marked “B” ) showed in fig.1, fig.2 when adjusting or maintaining your product. For sizes 9031 and 9032, do not miss the four ex-proof bolts, which secure the wiring box pedestal and the ex-proof housing (not showed in fig.).
- Do not motor operate the unit with damaged ex-proof parts, change them instantly. (The name of the explosion-proof parts can refer to fig.1, fig.2 and table1, table2).
- Do not dismount the ex-proof motor at random because it is for a special purpose. The motor leads, which draw through the “ex-proof sleeve ” that secure the motor and the housing, are connected in the electrical compartment. So do not miss the “ex-proof sleeve” after your product is examined and repaired.
- All fasteners cannot become flexible and should be checked regularly.

**Fig. 1 Construction fig. of ex-proof basic version**



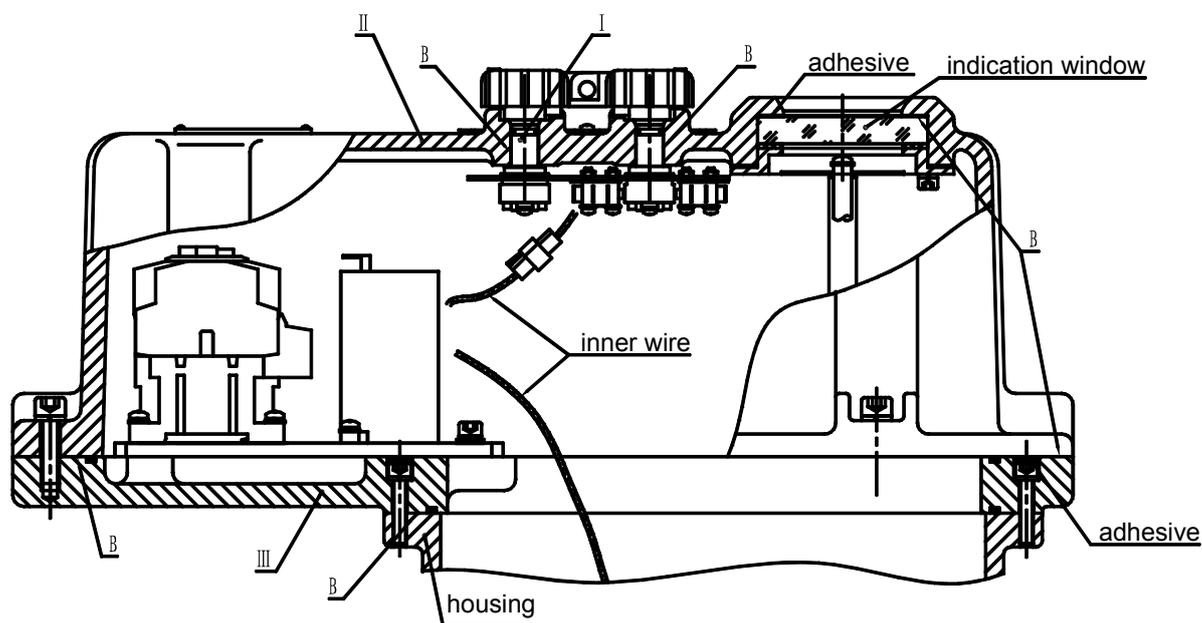
✓ **Part list of ex-proof basic version:**

Table 1

| No. | Description       | QTY | Remark                 | No. | Description     | QTY | Remark     |
|-----|-------------------|-----|------------------------|-----|-----------------|-----|------------|
| 1   | Seal stopper      | 2   | Nitrile rubber         | 10  | Setting rod     | 1   | 2Cr13      |
| 2   | Outer Ground-bolt | 1   | Stainless steel, M8×12 | 11  | Torque shaft    | 1   | 2Cr13      |
| 3   | Wiring-box        | 1   | HT200                  | 12  | Torque sleeve   | 1   | HT200      |
| 4   | Terminal board    | 1   | Arc tight melamine     | 13  | Limit shaft     | 1   | 45         |
| 5   | Wiring-box case   | 1   | HT200                  | 14  | Limit sleeve    | 1   | HT200      |
| 6   | Inter Ground-bolt | 1   | Stainless, M4×6        | 15  | Housing         | 1   | HT200      |
| 7   | Compartment cover | 1   | HT200                  | 16  | Ex-proof sleeve | 1   | Q235A      |
| 8   | Housing cover     | 1   | HT200                  | 17  | Motor           | 1   | Special    |
| 9   | Window            | 1   | Toughened glass        |     | Bolt (for 9032) | 4   | 35, M12×16 |
| 10  | Button            | 2   | Stainless steel        |     |                 |     |            |

● Ex-proof with control package is based on the basic version, change the ex-proof housing cover subassembly only. You can familiar with it refer to fig.1 and fig.2.

**Fig.2 Construction fig. Of ex-proof with control package**



✓ **Parts list of ex-proof with control package:**

Table 2

| No. | Description   | QTY | Remark    | No. | Description   | QTY | Remark |
|-----|---------------|-----|-----------|-----|---------------|-----|--------|
| I   | Ex-proof knob | 2   | ABS+2Cr13 | III | Interim plate | 1   | HT200  |
| II  | Housing cover | 1   | HT200     |     |               |     |        |

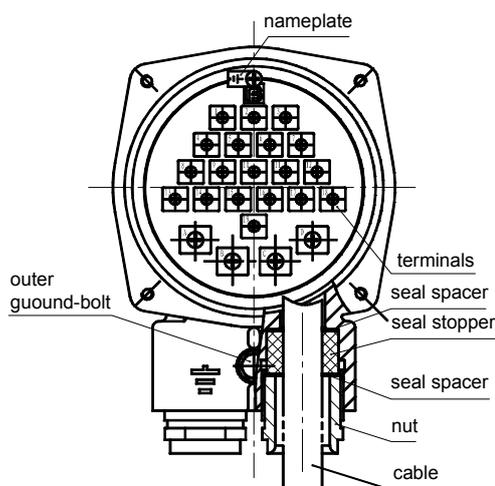
Other parts may refer to table 1 (not include No.8 and 10)

**Terminal Block and Connection**

The typical wiring diagram can be consulted in the “903 series electric actuators manual”, there are 36 terminals marked with numbers or letters in the electrical compartment. Please refer to the wiring diagram supplied with your unit to connect wires properly.

- Draw the pilot cable, the dynamic cable and the inner grounding leads through the two conduit entries under the electrical compartment separately then set the seal stoppers and tighten the nuts. The construction is shown as fig.3.

**Fig 3 Construction fig. of terminal block and connection**



- Do not connect the uncovered wire with terminals directly, the reliable insulation should be ensured. The consumer could choose suitable connecting pieces according to the bolts in the terminal board.

**Connecting Method**

1. Take out the “nut” and “seal spacer”, then choose suitable seal stoppers according to the diameter of wire.
2. Draw the wire through the nut, the seal

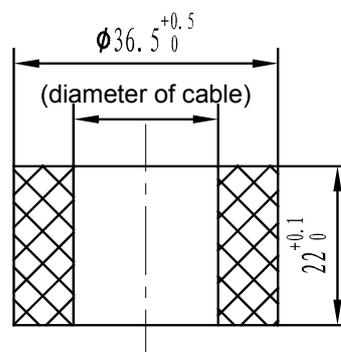
spacer and the seal stoppers in turn, and then put them into the conduit entries.

3. Connect the wire which has been linked with suitable “connecting pieces” and “insulation tube” with the corresponding terminal according to the wiring diagram. **Note:** Ensure the connecting pieces and terminals connected firmly and reliably and set the pommel of connecting pieces in the same direction.
4. Set the “Seal stoppers” and the “seal spacer”, tighten the “nut” equally. **Note:** Uncovered wire is not permitted.
5. Ground the housing and the scarfskin of armoured cable, mount the outer Ground-bolt.

- The “seal stopper” may be reused a limited number of times. It is recommended that purchase a new one from us or manufacture it according to fig.4.

**Technical Requirement:**

1. Rubber should be aging tested according to relevant national criteria.
2. Tensile intensity: >70kgf/cm<sup>2</sup>
3. Extend ratio >56%
4. Hardness: 邵氏硬度 45~50



**Fig.4 the Seal stopper**