ZW53-12 Outdoor AC High Voltage Vacuum Circuit Breaker

**Summary**

ZW53-12 model outdoor AC vacuum circuit breaker is used to make and break load current, overload current and short-circuit current in rated voltage 12kV, three phase AC 50/60Hz power system. It is applicable for substations, industry and mining, urban and rural electricity power networks. It accords with the standard of IEC62271-100 & GB1984: AC high voltage circuit breaker, IEC60694 & GB/T11022: HV General technical requirement of switch and control apparatus.

**Ambient condition**

1. Ambient temperature: -40°C~+40°C;
2. No altitude limitation;
3. Wind speed: ≤34m/s;
4. Earthquake intensity: 8 degree;
5. Ambient pollution: IV.

**Model**

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ZW 53 - 12 / 630 - 20
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- Rated short-circuit breaking current (kA)
- Rated current (A)
- Rated voltage (kV)
- Design serial No.
- Outdoor
- Vacuum

**Product feature**

1. **EPDM rubber insulation**
   - The inner HV elements are enclosed, insulated and isolated, EPDM rubber are specially processed, and anti-oxidation processing ensures stable performance of the advices.

2. **Vacuum arc-extinguishing chamber**
   - Mini vacuum arc-extinguish chamber is equipped with good features, high parameters and low main circuit resistance.

3. **Insulating bar**
   - The insulating bar connects spring operation mechanism to continue actor of vacuum arc-extinguishing chamber, special high electric medium and silicon rubber sealed technical takes the place of traditional SMC insulating bar and endow it with good insulation effect.

4. **Impact and light structure**
   - The EPDM adopted enjoys better insulating capability than SF6, oil and air, and it has attracting characteristics of small structure and weight. This product is suitable for installing in cable channel. MVI sectioning device is mounted in random. The best connection and operation is assured.

5. **Spring mechanism**
   - High dependability, mini spring operation mechanism, long mechanical duration with up to 20000 times.

6. **Switch enclosure**
   - Stainless steel enclosure and airproof slot assure features of good corrosion-proof and air-proof features.

7. **Complete air-proof and anti-water**
   - Pollution, rust and continue flood are not to influence the breaker, the stainless steel cover and EPDM rubber assures vacuum arc-extinguishing chamber are out of influence.

8. **Free maintenance**
   - EPDM rubber of solid insulation avoids from pressure, cover protection.

9. **Wide application**
   - This product is applicable in occasions like underwater (2m underwater, within 72 hours), severe pollution, wet environment.
   - It can also be installed in outdoor prefabricated substation, under ground occasions, electric poles.
10. Convenient compounding
The compounding can be connected with standard cable connector, connects with current transformers, voltage transformers and fuse.

## Technical specification

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Unit</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rated voltage</td>
<td>kV</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>1min P.F withstand voltage (dry/wet)</td>
<td></td>
<td>42(across open contacts:49)/34</td>
</tr>
<tr>
<td>3</td>
<td>Lightning impulse withstand voltage (peak)</td>
<td>A</td>
<td>630</td>
</tr>
<tr>
<td>4</td>
<td>Rated short-circuit breaking current</td>
<td>kA</td>
<td>20</td>
</tr>
<tr>
<td>5</td>
<td>Rated short-circuit making current (peak)</td>
<td></td>
<td>50</td>
</tr>
<tr>
<td>6</td>
<td>Rated short-time withstand current</td>
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<tr>
<td>7</td>
<td>Rated peak withstand current</td>
<td></td>
<td>50</td>
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<tr>
<td>8</td>
<td>Rated operating sequence</td>
<td></td>
<td>0 -0.3s-CO-180s-CO</td>
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<tr>
<td>9</td>
<td>Rated short-circuit breaking current breaking times</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>10</td>
<td>Mechanical duration</td>
<td></td>
<td>10000</td>
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<tr>
<td>11</td>
<td>Rated short-circuit making current</td>
<td>V</td>
<td>220(DC,AC)</td>
</tr>
<tr>
<td>12</td>
<td>Rated voltage of auxiliary circuit</td>
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<td>220(DC,AC)</td>
</tr>
<tr>
<td>13</td>
<td>Operation method</td>
<td></td>
<td>Spring operation (manual/motor)</td>
</tr>
<tr>
<td>14</td>
<td>Dimension (length x width x height)</td>
<td>mm</td>
<td>568 × 222 × 606</td>
</tr>
<tr>
<td>15</td>
<td>Weight</td>
<td>kg</td>
<td>50</td>
</tr>
</tbody>
</table>

### Product structure


- Basic equipments:
  1. Motor spring operating mechanism AC220V.
  2. Incoming and outgoing cable connector.

- Optional equipments:
  1. Outer current transformer, metering device, protection poles 3 pieces for each poles, 50-2000/5.
  2. Outer voltage transformer 2 pieces(for control power supply and metering).
  3. Reclosing controller and series FTU and RTU.
  4. Motor spring operating mechanism AC/DC220/110/48/24V.