WENNIAN

BOP RUBBER ACCESSORIES

Specializing in the R&D and Customization of BOP Rubber Accessories

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We supply a variety of BOP rubber accessories, including ram BOP packing elements, annular BOP packing elements, spherical BOP packing elements and rotating BOP packing elements. All products are manufactured in strict compliance with API standards, guaranteeing high performance operation in diverse drilling environments.

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Ram BOP Packing Element

Manufactured from high-strength rubber composite material, it offers excellent wear resistance and sealing performance. Its unique structural design ensures reliable well sealing when the ram closes, effectively preventing blowout incidents. It is available in multiple sizes and specifications to fit mainstream BOP models, easy installation and simple replacement.

Main Features

- Oil-resistant and drilling fluid corrosion-resistant performance;
- Temperature range: -29 °C to 121 °C (standard), high-temperature type up to 177 °C;
- Resistance to hydrogen sulfide (H_2S) aging.

Main Materials & Properties

- **NBR:** Oil-resistant, wear-resistant, and cost-effective; ideal for wells using conventional oil-based drilling fluids.
- **HNBR:** Excellent resistant to high-temperatures, H_2S, and aging; suitable for high-temperature and sour-gas wells.
- **FKM/Viton:** Resistant to acid gas and temperatures up to 200 °C; ideal for deep wells and high-pressure wells.
- **PU:** Excellent wear resistance and tear resistance; suitable for sand-producing wells and wells requiring high-frequency operations.

Main Specifications

- **I.D. sizes:**

Ø7-1/16"	Ø9-8/5"	Ø11"	Ø13-5/8"	Ø18-3/4"	Ø20-3/4"	Ø21-1/4"

Maintenance & Replacement Recommendations

- Check the sealing surface of rubber packing element every 200 operations or once per quarter.
- If any cracking, deformation, or debonding is found on the sealing lip, replace it immediately.
- During storage, avoid direct sunlight and maintain the temperature at 5–25 °C.

Variable Ram Packing Element

The variable ram packing element is a key sealing component in a ram BOP system, designed to seal drill strings of different outside diameters. A single packing element can automatically adjust to seal multiple sizes of drill pipe, casing, or tubing without replacing the entire ram assembly.

Main Features

- **Corrosion resistant.**

  Excellent resistance to oils, acid gases and H_2S.

- **Resistant to high and low temperatures.**

  -29 °C to +180 °C

- **Automatic variable-bore sealing.**

  No need to change rams; the sealing surface automatically adjusts to seal multiple drill string sizes.

- **Dimensional interchangeability.**

  Rams and packing elements are interchangeable among BOPs of the same model (API interface dimensions).

- **Service life:**

  300–600 hours depending on operating conditions; opening/closing cycles ≥ 500

Annular BOP Packing Element

It is a rubber sealing element used to provide full circumferential sealing when wellhead overflow occurs or when the drill string needs to be sealed. The element is hydraulically compressed by the piston and constrained by the top cover, producing a tapered deformation that achieves a complete seal. This component is one of the most critical and most frequently used sealing parts in well control equipment. It can fully close the well even when no tubulars are present in the wellbore. However, it is not intended for long-term shut-in operation.It is available in various sizes and specifications to fit mainstream BOP models.

Main Features

- **High versatility.**

  Capable of sealing drill pipe, casing, tubing, and open-hole wellheads of various shapes.

- **High media resistance.**

  Made from materials that are resistant to H_2S, oil, and other downhole media.

- **High and low temperature resistance.**

  -29 °C to +150 °C (depending on material).

Main Specifications

- **I.D. sizes:**

Ø5-1/8"	Ø7-1/16"	Ø11"	Ø13-5/8"	Ø18-3/4"

- **I.D. sizes:**

130 mm	179.4 mm	279.4 mm	346.1 mm	480 mm

Maintenance & Replacement Recommendations

- Keep the hydraulic system clean and prevent oil contamination from degrading the rubber core.
- Storage temperature 5–25 °C; avoid sunlight and ozone.
- Replace every 400 opening/closing cycles or after a total of 600 operating hours.
- Apply dedicated silicone-based grease to prevent tearing.
- For long-term shutdown, store with the pressure relieved.

Tapered BOP Packing Element

It is a rubber packing element used to provide full circumferential sealing when wellhead overflow occurs or when the drill string needs to be sealed. The seal is achieved by hydraulically driving the upper cover downward to create a tapered compression deformation. This component is one of the most critical and most frequently used sealing parts in well control equipment. It is available in various sizes and specifications to fit mainstream BOP models.

Main Features

- **High elasticity and wear resistance.**

  Excellent abrasion resistance, tear resistance, and load-bearing capability.

- **High-pressure resistance.**

  Designed to withstand the rated working pressure of the BOP.

- **High and low temperature resistance.**

  Available in various temperature ratings to accommodate different formation conditions.

- **Reliable sealing.**

  Ensures reliable sealing for various drill pipe sizes under rated pressure. Not suitable for prolonged sealing of an open hole.

- **Service life.**

  Typically evaluated by the number of sealing cycles and cumulative sealing time; pressure-holding operations will significantly reduce its lifespan.

Maintenance & Replacement Recommendations

- **Control closing pressure properly.**

  The tapered BOP packing element is not intended for long-term shut-in, especially under high pressure. It should be used as an emergency measure before switching to a ram-type BOP for secure isolation.

- **Control drill string movement speed.**

  When the drill string moves through a sealed packing element, movement must be slow to avoid heat buildup that can burn the packing element.

- **Perform regular inspections.**

  Check the inner bore of the packing element for cracks, cuts, heavy wear, or permanent deformation.

- **Replace immediately if degraded.**

  Any reduction in sealing performance or visible damage requires immediate replacement.

- **Proper storage.**

  Store in a cool, dry, shaded environment, away from ozone and chemicals, and prevent deformation during storage.

Spherical BOP Packing Element

It is a main sealing component installed inside the spherical BOP. It consists of a spherical-cap rubber body and a metal framework. Hydraulic oil drives the piston to compress the packing element, causing it to contract along the spherical surface and seal the wellhead. It is available in various sizes and specifications to fit mainstream BOP models.

Main Features

- **High sealing reliability.**

  Capable of sealing drill pipe, casing, tubing and open-hole wellheads, maintaining good sealing performance even under eccentric conditions.

- **High pressure resistance.**

  commonly used in 5,000–10,000 psi high-pressure BOP systems.

- **High and low temperature resistance.**

  -29 °C to +150 °C (depending on material).

Maintenance & Replacement Recommendations

- Inspect the packing element after every 400–500 opening/closing cycles or after every 400–700 hours of operation.
- Check for cracks, bulging, debonding, or wear on the sealing lips.
- Keep the hydraulic system fluid clean.
- Avoid exposure to direct sunlight, heat sources, and solvents during storage.
- Depressurize the system for long-term storage.

Rotating BOP Packing Element

Manufactured from oil-resistant rubber composite material, it achieves dynamic sealing of drilling fluid media. During drilling operations, it maintains wellhead sealing while the drill string rotating and moving vertically to prevent blowouts and mud spillage. The product complies with API Spec 16A requirements and is available in various sizes and specifications to fit mainstream BOP models.

Main Specifications

- **I.D. sizes:**

Ø2-7/8"	Ø3-1/2"	Ø4-1/2"	Ø5"	Ø5-1/2"	Ø5 -7/8"

Main Features

- **Excellent dynamic sealing performance:**

  It maintains reliable sealing while the drill string is rotating.

- **Wear-resistant wiper:**

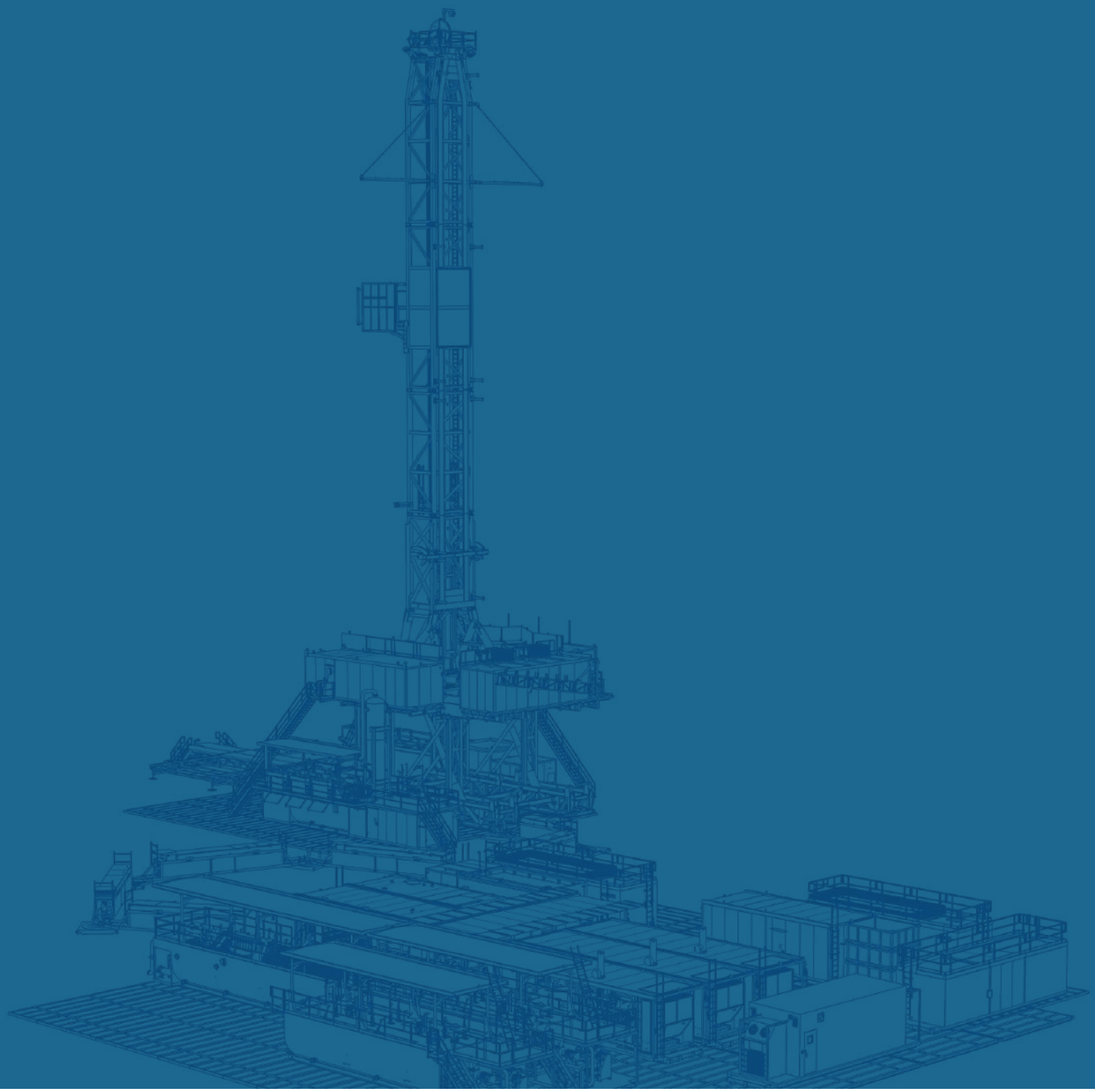
  Made of hydrogenated nitrile butadiene rubber (HNBR) and polyurethane (PU), it offers high tear strength and resistance to sand abrasion.

- **High and low temperature resistance:**

  -29 °C to +150 °C（HNBR); up to +180 °C（FKM).

Maintenance & Replacement Recommendations

- Match dedicated packing elements according to the equipment model.
- During opening and closing, ensure the hydraulic oil is clean and the pressure is stable; avoid prolonged no-load rotation that may cause dry friction.
- Inspect every 300–500 hours of operation or after 500 opening/closing cycles;
- Store in a cool, dry, light-protected place to prevent rubber aging.



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