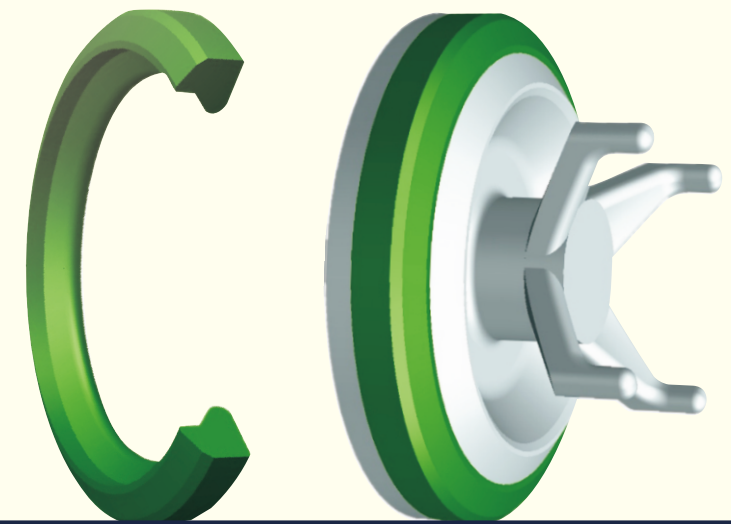




凡尔胶皮产品手册

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VALVE SEAL PRODUCT MANUAL



Professional manufacturer of engineered polymer products



苏州普力密封科技有限公司
Suzhou Pulim Sealing Technology Co., Ltd

地址: 中国苏州市相城区经济开发区华阳路155号
Address: No.155 Huayang Road,Xiangcheng
District, , Suzhou , P.R. China
Tel: +86 (512) 66333588 Fax: +86 (512) 66333988
网址: www.pulim.cn



优泰科（苏州）密封技术有限公司
UTEC (Suzhou) Sealing Solutions Co., Ltd

地址: 中国苏州工业园区界浦路南 江田里路25号
Address: No.25 JiangTianLi road, south JiePu road, SIP,215126
Suzhou,P.R.China
Tel: +86 (512) 62795018 Fax: +86 (512) 62797880
网址: www.utecc.com

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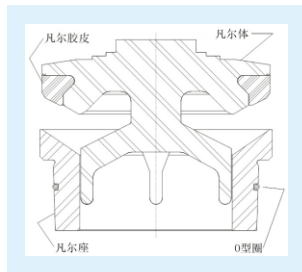
凡尔胶皮定义及特点

Valve Seal Definition And Characteristics

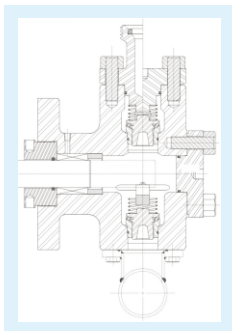
As a necessary vulnerable part of fracturing truck, well cement truck, plunger pump, mud pump and other petroleum equipment, Its product features mainly have the following points:

- High tensile strength and tear strength
- Good resistance to compression and permanent deformation
- Good static and dynamic sealing performance
- Good resilience, low friction coefficient, wide range of temperature adaptation, not only good water and oil resistance, but also acid and alkali resistance;

Valve body assembly structure drawing:



Example of valve body assembly application in fracturing pump:



凡尔胶皮使用工况

Valve Seal Service Condition:

At present, Types of fracturing fluids used for fracturing operations include water-based fracturing fluid, oil-based fracturing fluid, alcohol-based fracturing fluid, emulsified fracturing fluid, foam fracturing fluid, energy-enhancing fracturing fluid, etc., regardless of the type of fracturing fluid, they contain more than ten additives, complex ingredients, and require the fracturing fluid to be good at carrying sand. The performance and service life of Valve Seal is the key to ensure the normal operation of fracturing equipment, and in the whole fracturing process, the maximum construction pressure can reach more than 100 Mpa, and each period of construction time can reach 2-3 hours, cumulative construction work up to 25-30 hours, operating pressure, long working time, bad working conditions, which put forward very harsh requirements for the use of Valve Seal.



凡尔胶皮物性参数

Valve Seal Physical Parameter

Suzhou PULIM Sealing Technology Co., Ltd. developed high quality polyurethane material, with excellent wear resistance, extrusion resistance, fatigue resistance and medium resistance, for petroleum industry fluids (including acidic media or liquid nitrogen) also has excellent compatibility.

性能/Properties	单位/Unit	常规聚氨酯/PLMPUR	耐高温聚氨酯/PLMPUR-H	测试标准/Test standard
颜色/Color	/	绿色/Green	红色/Red	/
硬度/Hardness	Shore A	95 ± 2	95 ± 2	DIN53505
硬度/Hardness	Shore D	48 ± 3	48 ± 3	DIN53505
密度/Density	g/cm³	1,20 ± 0,01	1,19 ± 0,01	DIN53479
100%弹性模量/100 % - Modulus	N / mm²	≥12	≥13	DIN53504
抗拉强度/Tensile strength	N / mm²	≥50	≥50	DIN 53504/53455
断裂伸长率/Elongation at break	%	≥430	≥330	DIN 53504/53455
撕裂强度/Tear strength	N / mm	≥ 100	≥ 100	DIN53515
压变/Compression set(24 h / 70°C/20% Def.)	%	≤27	≤27	DIN53517
压变/Compression set (24 h / 100°C/20% Def.)	%	≤33	≤33	DIN53517
磨损/Abrasion(5N/40M/84R)	mm³	18	17	DIN53516
回弹/Reboundance resilience	%	≥42	≥30	DIN53512
最低工作温度/Minimum Service Temperature	°C	-30	-20	/
最高工作温度/Maximum Service Temperature	°C	100	110	/
短期最高温度/Short Term	°C	110	120	/

Remarks : PLMPUR suitable for acid content less than 10% condition. PLMPUR-H suitable for acid content more than 10% condition.

常规凡尔胶皮

Regular Valve Seal

At present, there are two processing methods for Valve Seal: mold free turning and injection molding, Mold free turning has the characteristics of fast response and no batch requirement, Injection molding is characterized by low unit price, stable size and high production efficiency, which can effectively reduce fracturing costs for the owner. Our company can provide Valve Seal of mold free turning and Valve Seal of injection molding, is a supplier of high quality parts to the petroleum industry.



改性材料凡尔胶皮

PLMPUR-Modified Valve Seal

In areas where fracturing is more difficult, Valve Seal is need to bear increased pressure, higher temperatures, and constant work in concentrated acid environments. PULIM has developed modified material Valve Seal for such harsh conditions, which can effectively improve the continuity of on-site production.