



DMS SEALS



PRODUCT MANUAL
VOL. 2025

DMS SEALS TECHNOLOGY CO.,LTD

Design & Manufacture Seals



REASONS TO CHOOSE US



Enterprise vision

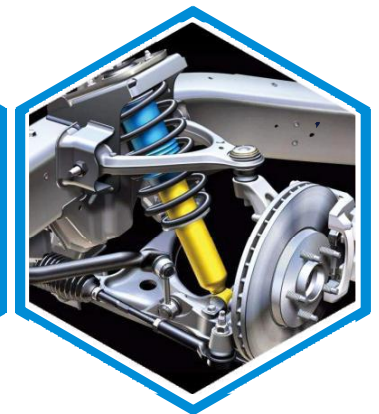
Industrial sealing technology pathfinder
Domestic alternative pioneers

Enterprise glory

National high-tech enterprise
Guangdong specialized and innovative enterprises
Foshan City gazelle enterprise

Enterprise strength

More than 20 national specialties, exquisite craft and technology
ISO 9001, IATF16949, ISO10012 Quality recognition
Injection molding, molding, vulcanization three major factories
More than 40 employs are formula, process and application technology



DMS SEALS SYSTEM

DMS SEALS was established in 2008. DMS Seals Technology Co., Limited is a high-tech enterprise which specialized in the research, manufacture, and sales of high polymer seals. DMS Seals covers an area of more than 10000 square meters. By now, we have more than 40 senior technicians and more than 100 sets of production equipment and advanced testing equipment. Meanwhile we have got many patents and own the leading production process. We passed the evaluation of ISO9001:2015 and IATF16949:2016.

Our main products are polymer seals of PTFE, modified material, FKM, PCTFE, UPE, Special polyurethane and so on. They are the key parts of some mechanical equipment which required high temperature resistance, low temperature resistance, high pressure resistance, corrosion resistance and other special working conditions. They are widely used in the engineering machinery, car, automation equipment, petroleum, chemical engineering, aerospace and other field.

We insist on “First class design, First class manufacture, and First class service” as our mission. Strive to be a leading sealing solution supplier, and continue creating much more value for our customers.

ISO 9001:2015

DMS SEALS -- Provide you high quality products, quick service and leading technical support.

IATF 16949: 2016





Wear Ring made of Nylon+Glass fiber

Application

Support and guiding of piston and rod in hydraulic or pneumatic cylinder system

Suitable for guidance of hydraulic cylinders under heavy loads, high speeds or severe deflection

Properties

- ◆ Wide temperature range
- ◆ Good wear resistance
- ◆ Reduce vibration
- ◆ Protect the seal from particulate matter
- ◆ Protect parts from the Diesel effect
- ◆ Easy to assemble
- ◆ Tighter tolerances
- ◆ Can withstand heavy off-load
- ◆ Can withstand high cycle speed
- ◆ The maximum line speed is 1 m/s, twice than PHE Wear Ring
- ◆ 40MP for the rated load pressure, be 3 times of PTFE filled bronze guide ring



Material

High toughness Nylon + glass fiber

Specification

Minimum ID 30mm, maximum OD 360mm

Full range of metric and imperial sizes



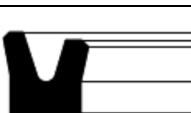
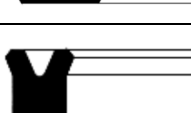
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Rod Seals Series

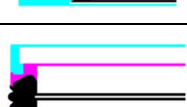
Figure	Type	Pressure ≤ MPa	Speed ≤ m/s	Temp. Range °C	Material	Action	Page
	GSJ	35	1.5	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Single	20-23
	RSJ	35	1.5	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Single	24-25
	GSI	60	1.5	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Double	26-30
	GSJ-W	40	1.5	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Single	31-33
	SPN	35	1.5	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Double	34-35
	SPNC	15	1.5	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Double	36-38
	SPNO	35	1.5	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Double	39-40
	GZT	25	1.5	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Double	41-42
	DSJR	60	1.5	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Single	43-44
	FSKR-V	80	5	-200 ~ 250	PTFE SUS/400A	Single	45-46
	FSR-V	80	5	-200 ~ 250	PTFE SUS/400A	Single	47-48

Rod Seals Series

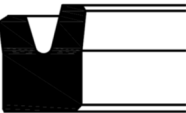
Figure	Type	Pressure ≤MPa	Speed ≤m/s	Temp. Range °C	Material	Action	Page
	FSKR-O	80	0.5	-200 ~ 250	PTFE SUS/103A	Single	49-50
	FSR-O	80	0.5	-200 ~ 250	PTFE SUS/103A	Single	51-52
	FSR-X	80	15	-200 ~ 250	PTFE SUS/APS	Single	53-54
	FSKR-X	80	15	-200 ~ 250	PTFE SUS/APS	Singe	55-56
	DSR	20	2	-20 ~ 150	NBR/PTFE/POM/PA FKM/PTFE/POM/PA	Single	57-58
	URL	30	0.5	-30 ~ 110	NBR/FKM/PU	Single	59-61
	URD	35	0.5	-30 ~ 110	NBR/FKM/PU	Single	62-64
	UL	20	0.5	-25 ~ 100(NBR) -10 ~ 150(FKM)	NBR/FKM/PU	Single	65-67
	UH	30	0.5	-25 ~ 100(NBR) -10 ~ 150(FKM)	NBR/FKM/PU	Single	68-71

A

Piston Seals Series

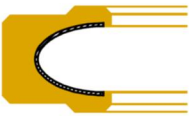
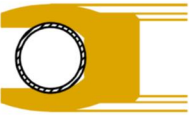
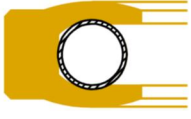
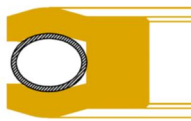
Figure	Type	Pressure ≤MPa	Speed ≤m/s	Temp. Range °C	Material	Action	Page
	GSF	40	1.5	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Double	73-76
	GSD	30	1.5	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Single	77-80
	DPT	40	1.5	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Double	81-82
	SPG	40	1.5	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Double	83-85
	SPGC	15	1.5	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Double	86-88
	SPGO	35	1.5	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Double	89-91
	DAQ	20	0.5	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Double	92-95
	DAQ2	20	0.5	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Double	96-99
	GSF-W	40	1.5	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Double	100-102
	SPGW	50	1.5	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE/POM/PA	Double	103-104
	DPM	35	0.3	-30 ~ 100(NBR)	NBR/POM/PA	Double	105-109
	DDKK	30	1.0	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE/POM/PA	Double	110-112

Piston Seals Series

Figure	Type	Pressure ≤MPa	Speed ≤m/s	Temp. Range °C	Material	Action	Page
	FSK-O	80	0.5	-200 ~ 250	PTFE SUS/103A	Single	113-114
	FSK-V	80	5	-200 ~ 250	PTFE SUS/400A	Single	115-116
	FSKR-V	80	5	-200 ~ 250	PTFE SUS/400A	Single	45-46
	FSKR-O	80	0.5	-200 ~ 250	PTFE SUS/103A	Single	49-50
	FSK-X	80	15	-200 ~ 250	PTFE SUS/APS	Single	117-118
	FSKR-X	80	15	-200 ~ 250	PTFE SUS/APS	Single	55-56
	DSJK	60	1.5	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Single	119-120
	HPT	80	1.0	-30 ~ 110	NBR/TPR	Double	121-122
	UKH	40	0.5	-35 ~ 110	NBR/FKM/PU	Single	123-125
	UKL	20	0.5	-35 ~ 110	NBR/FKM/PU	Single	126-128

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End Face Spring Seals

Figure	Type	Pressure ≤MPa	Speed ≤m/s	Temp. Range °C	Material	Action	Page
	FSVI-V	80	5	-200 ~ 250	PTFE SUS/400A	Rotary Static	130-131
	FSVO-V	80	5	-200 ~ 250	PTFE SUS/400A	Rotary Static	132-133
	FSVO-O	80	0.5	-200 ~ 250	PTFE SUS/103A	Rotary Static	134-135
	FSVI-O	80	0.5	-200 ~ 250	PTFE SUS/103A	Rotary Static	136-137
	FSVO-X	80	15	-200 ~ 250	PTFE SUS/APS	Rotary Static	138-139
	FSVI-X	80	15	-200 ~ 250	PTFE SUS/APS	Rotary Static	140-141

Scraper Seals Series

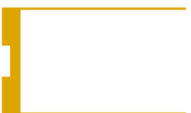
Figure	Type	Speed ≤m/s	Temp. Range °C	Material	Action	Page
	GSZ	5	-30 ~ 100(NBR), -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Single	143-145
	GSZ2	5	-30 ~ 100(NBR), -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Single	146-148
	DPT1	5	-30 ~ 100(NBR), -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Single	149-151
	DPT2	5	-30 ~ 100(NBR), -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Single	152-154
	FD	0.5	-30 ~ 100(NBR), -20 ~ 160(FKM)	NBR/FKM/PU		155-157
	FS	0.5	-30 ~ 100(NBR), -20 ~ 160(FKM)	NBR/FKM/PU		158-160

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Rotary Seals Series

Figure	Type	Pressure ≤MPa	Speed ≤m/s	Temp. Range °C	Material	Action	Page
	GNS	30	2	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Double Rotary	162-164
	GRS	30	2	-30 ~ 100(NBR) -20 ~ 160(FKM)	NBR/PTFE FKM/PTFE	Double Rotary	165-167
	FSXL-V	20	5	-200 ~ 250	PTFE SUS/400A	Single Rotary	168-169
	FSXL-O	20	0.5	-200 ~ 250	PTFE SUS/103A	Single Rotary	170-171
	FSXL-X	20	15	-200 ~ 250	PTFE SUS/APS	Single Rotary	172-173

Guiding Elements Series

Figure	Type	Pressure ≤MPa	Speed ≤m/s	Temp. Range °C	Material	Action	Page
	GST	10	15	-200 ~ 250	PTFE	Guiding	175-177
	DFI	5	15	-200 ~ 250	PTFE/PA/POM	Guiding	178-180
	DFA	5	15	-200 ~ 250	PTFE/PA/POM	Guiding	181-183
	DFAI	5	15	-200 ~ 250	PTFE/PA/POM	Guiding	184-186

Wiper & Dust Ring

Figure	Type	Pressure ≤MPa	Speed ≤m/s	Temp. Range °C	Material	Page
	KZT	-	15	-200 ~ 250	PTFE	188-190

Back-up Ring

Figure	Type	Pressure ≤MPa	Speed ≤m/s	Temp. Range °C	Material	Page
	BRT	-	15	-200 ~ 250	PTFE/PA/POM	192-193

O-Rings Seals

Figure	Type	Pressure ≤MPa	Speed ≤m/s	Temp. Range °C	Material	Page
	O-Ring	5-200 (Depend on working condition, material and back- up ring etc.)	0.3	-60 ~ 180	NBR /Rubber etc.	195-200
	Back-up ring for O-Ring	-	-	-200 ~ 250	PTFE/PA	201-205

Seal Material Introduction

Introduction of high polymer material

I . PTFE and its filling modification

B The melting point of PTFE is 327°C, density is 2.18 ~ 2.3g/cm³, and shore hardness is D50 to D65. It has excellent chemical stability and self-lubrication, it is the most widely used and the most variety of fluorine plastics. It has excellent comprehensive performance, such as high and low temperature resistance, corrosion resistance, aging resistance, non-adhesion, high insulation, high lubrication, and non-toxicity. However, the lack of easy creep, poor wear resistance, and large expansion coefficient of products usually need to overcome these shortcomings by filling modification. Commonly used fillers are bronze, carbon fiber, glass fiber, graphite, MoS₂, polybenzoate, PEEK and so on. According to different conditions and uses, it can be filled with one or more of the material.

1. Virgin PTFE

Virgin PTFE can be machined into support rings, back up rings, and other seals, with high temperature resistance, corrosion resistance, self-lubricating characteristics. But prone to creep and cause leakage under load, it's usually used in food, pharmaceutical and chemical industries.

2. PTFE filled bronze

Bronze is the most commonly used filler for PTFE, and the PTFE sealing modified by filling bronze has improved greatly in pressure resistance, wear resistance, thermal conductivity and creep resistance. For different performance requirements, different bronze composition, particle size and filling ratio can be chosen to meet the actual demand. The product is usually used to make wear rings, wear strips, oil cylinder seals and so on. The bronze may be corroded under strong acid conditions, so it is not recommended for use in strong acid conditions.

3. PTFE filled carbon fiber

The PTFE seal modified by carbon fiber has greatly improved in pressure resistance, wear resistance, creep resistance and tensile strength, meanwhile improved the hardness of the products, and suitable for rotary sealing, usually used for the production of spring energized seals, automobile transmission oil rings and so on. Carbon fibers may be oxidized and decomposed in a strong acid environment, so they are not recommended for use in strong acid conditions.

4. PTFE filled glass fiber

It has greatly improved in pressure resistance, wear resistance, creep resistance and tensile strength after filled the glass fiber for modified PTFE seal, meanwhile improved the hardness of the product, and suitable for rotary seal. Usually used for the production of back up rings, spring energized seals, automobile transmission oil rings and so on. Glass fiber may decompose in alkaline conditions, so it is not recommended for use in alkaline or water containing conditions.

5. PTFE filled graphite or MoS₂ modified

The main purpose of filling graphite or MoS₂ modification is to improve the pressure resistance, wear resistance, creep resistance and maintain the maximum low friction coefficient of PTFE and self-lubrication characteristics. Usually filled with other fillers and can be individually filled, mainly used in the manufacture of spring energized seals, air cylinder seal, self-lubricating shaft sleeve and so on. Applicable to the condition of low friction coefficient or inconvenient to add lubricant.

6. PTFE filled Polybenzoate or PEEK

It has greatly improved in pressure resistance, wear resistance, creep resistance and high temperature resistance after filled the Polybenzoate or PEEK, and especially has greatly improved the toughness and hardness in the high temperature environment. Suitable for the static seal, the dynamic seal and the self-lubrication piston rings of the compressor for long time working in the high temperature environment.

II . PCTFE

The melting point of PCTFE is 210~230°C, density is 2.1 ~ 2.18g/cm³, and shore hardness is D75-D90. PCTFE has excellent rigidity and corrosion resistance, and its mechanical properties are superior to PTFE at room temperature, and it has high compression strength and small cold flow. It has a higher rebound rate at low temperature and has a good elastic restoring force, and maintain a certain degree of elasticity at -265°C, it is one of the best material for ultra-low temperature combination property of polymers.

PCTFE is a crystalline polymer, so its mechanical properties are greatly affected by temperature, and it will be a certain difference base on different crystallinity and molecular weight, the tensile strength and hardness will increase with the advance of crystallization, but the elongation will decrease. Because of the poor fluidity of the melt, the grade with large molecular weight usually use compression molding and can't use extrusion molding.

PCTFE is an ideal sealing material under low temperature and high pressure conditions, it can be used for a long time in the range of -200~125°C. PCTFE seals are of special use in the field of high and new technology, recommended for use in liquid oxygen, liquid nitrogen, liquefied natural gas and other low temperature conditions in the pipe, pumps, valves, joints and other fields.

III. PFA/FEP/PVDF

PFA, Perfluoroalkoxy resin, another name is meltable polytetrafluoroethylene, it is a copolymer of a small amount of perfluoropropyl vinyl ether and polytetrafluoroethylene. The melting point is 300~310°C, density is 2.13 ~ 2.16g/ cm³. Its mechanical properties are better than PTFE, and its chemical resistance is comparable to PTFE. High purity PFA can be used to make microelectronic (chip) device components.

FEP, the scientific name is Perfluoroethylene propylene copolymer, another name is polyperfluorinated ethylene propylene, F46, it is a copolymer of tetrafluoroethylene and hexafluoropropylene. The melting point is 300~310°C, density is 2.1 ~ 2.15g/cm³. Its mechanical properties are slightly better than PTFE, the weather resistance and chemical resistance are not as good as PTFE, and FEP can replace PTFE in some high temperature and high frequency fields.

PVDF, Polyvinylidene fluoride, the melting point is 172~185°C, density is 1.75 ~ 1.8g/cm³. PVDF is not as good as PTFE in terms of resistance to aging, chemical resistance, weather resistance, and UV radiation, but superior to ordinary engineering plastics. It is often used to make corrosion resistant equipment seals. High purity grade PVDF can be used as lithium battery insulation materials and ion exchange membrane materials

The melt-processable resin not only has similar properties to polytetrafluoroethylene, but also has good processability of thermoplastics. Therefore, it makes up for the shortage of PTFE processing difficulties, making it a substitute for PTFE materials in many fields.

The melt-processable resin can be produced by injection molding, extrusion, molding and other processes, and its semi-finished products include film, plate, rod, fiber and tube

IV. POM/PA

POM, PA are high-performance engineering plastics with excellent mechanical properties, such as strength, modulus, and toughness, they are commonly used to make seal components with guidance and anti-extrusion elements. POM has a small coefficient of friction, and PA with fibers added has excellent load-bearing capacity and wear resistance.

V . UHMWPE

The melting point of UHMWPE is 130~136°C, density is 0.94g/cm³, and shore hardness is D40~D60. It combines almost all of the advantages of plastic materials, impact resistance, wear resistance, chemical corrosion resistance, low friction coefficient, good self-lubricating performance. And it has excellent mechanical properties in ultra-low temperature environment, still has high impact property at -70°C, still maintain toughness and strength at -196°C, it hardly absorbent and non-swelling. It has better wear resistance and creep resistance than PTFE material, the mortar wear test proved that abrasion resistance of UHMWPE can reach 6.6 times of ordinary carbon steel.

The molecular weight of UHMWPE is less than 5 million and can be extruded molding after technical processing, the molecular weight of UHMWPE which is more than 5 million only can do compression molding.

The long term working temperature range of UHMWPE seals is -180°C~70°C. Recommended for the working condition of high sliding performance requirements or poor lubrication, high wear resistance or prone to dry friction of water in mediums, also usually used in ultra-low temperature sealing environment. Its disadvantage is lack of tensile strength, poor high temperature resistance, low hardness and low thermal conductivity.

VI. PEEK

The melting point of PEEK is 343°C, density is 1.265 ~ 1.32g/cm³, and shore hardness is D82~D90, tensile strength is higher than 92MPa. PEEK is a kind of special polymer material. It has high mechanical strength, high temperature resistance, impact resistance, flame retardant, acid and alkali resistance, hydrolysis resistance, wear resistance, fatigue resistance, radiation resistance and good electrical insulation performance. PEEK resin has high temperature performance and high melting point. The continuous use temperature can reach 260°C, and the load thermal deformation temperature up to 316°C after adding glass fiber or carbon fiber. PEEK resin has good toughness and rigidity, and it has excellent fatigue tolerance to the strain force, which is comparable to the alloy material.

Because of its excellent resistance to high temperature, self-lubrication, wear resistance and fatigue resistance, it has become one of the most popular high performance engineering plastics. It is mainly used in aerospace, automotive industry, electronic and electrical, medical equipment and other fields.

PEEK has good mechanical properties, high temperature resistance, wear resistance and high pressure resistance, so it is commonly used to make compressor valve plate, piston rings, high temperature seals, sliding bearings and so on.

VII. TPU/TPE/TPEE

Thermoplastic elastomers are a type of elastomers that have rubber-like elasticity at room temperature and can be plasticized and molded at high temperatures. Different grades of thermoplastic elastomers have a wide range of hardness, from Shore 40A to Shore 70D.

B Commonly used varieties in the sealing field include polyurethane TPU, styrene-ethylene TPE, and polyester TPEE. The structural characteristics of thermoplastic elastomers are that they are composed of different resin and rubber segments bonded together by chemical bonds. The resin segments form physical crosslinking points through intermolecular forces, while the rubber segments contribute elasticity with their highly elastic chain segments. The physical crosslinking of the plastic segment is reversible with temperature changes, showing the plastic processing characteristics of thermoplastic elastomers. Therefore, thermoplastic elastomers have the physical and mechanical properties of vulcanized rubber and the processing performance of thermoplastic plastics. They are a kind of new polymer material between rubber and resin, often referred to as the third generation of rubber.

Thermoplastic elastomers have a lower friction coefficient and higher mechanical properties than rubber, making them commonly used for making main sealing elements for oil cylinders such as Y-rings. High-hardness TPU can also be used to make sealing elements such as O-rings, while high-hardness TPE/TPEE can be used to make sealing elements such as washers and guides.

Introduction of rubber material

I . NBR

NBR is a kind of synthetic rubber produced by low temperature emulsion polymerization of butadiene and acrylonitrile, it has excellent oil resistance, high wear resistance, water resistance, air tightness and good bonding properties. NBR used in the range of $-40^{\circ}\text{C}\sim 100^{\circ}\text{C}$, and the service life will decrease when it is used at 120°C . It is widely used in the production of a variety of oil-resistant rubber products, O-Ring, washers, casing, cable plastic materials, etc. it is also an essential elastic material in the automotive, aviation, oil and other industries.

The disadvantages of NBR are low temperature resistance, poor ozone resistance, low insulation performance and low elasticity.

II . FKM/FPM

Viton rubber is a synthetic rubber containing with fluorine atom. It has the characteristics of high temperature resistance, oil resistance, media resistance, and variety of chemical erosion resistance. And it has high chemical stability, which has the best performance for media resistant in one of the elastomer at present. The application for temperature ranges is from -20°C to 200°C . The low temperature ranges are from -20°C to -15°C for dynamic sealing. It's mainly used for producing oil seals, O-Rings, back up rings, O-Ring cords, rubber sheets, sealing rings and so on. The disadvantages of viton is poor performance for low temperature resistance and density is large.

III . EPDM

EPDM is a ternary polymer of Ethylene, Propylene, and Non-conjugated Diolefins. The main polymer chains are fully saturated, so that it can resist heat, light, oxygen, especially for ozone. It has high performances for oxidation resistance, weather resistance, electricity insulated, chemical corrosion resistance, attacked elasticity. It's mainly applied for the industry of oxygen resistant, water resistant, corrosion resistant and electrical insulation, for producing heat resistant conveyor belts, cables, antiseptic lining, sealing gaskets, door and window seals, and plastic modification and so on.

IV . HNBR

HNBR has good oil resistance (good resistance to fuel oil, lubricating oil and aromatic solvents); And because of its highly saturated structure, it has good heat resistance ($130^{\circ}\text{C}\sim 180^{\circ}\text{C}$) and cold resistance ($-55^{\circ}\text{C}\sim -38^{\circ}\text{C}$), excellent chemical corrosion resistance (to freon, acid, alkali has good hyperactivity tolerance), excellent ozone resistance, high compression permanent deformation resistance; At the same time, HNBR also has the characteristics of high strength, high tearing ability, excellent wear resistance, etc., and is one of the most excellent rubber with comprehensive properties

V. Perfluoroether rubber (FFKM)

Perfluoroether rubber is mainly composed of tetrafluoroethylene and perfluoroalkyl vinyl ether as the main monomers, copolymerized with a small amount of a third monomer with a sulfur vulcanization point.

B The density is 1.8-2.0 g/cm³, and the physical and mechanical properties are similar to fluororubber. It has better high-temperature compression permanent deformation resistance than fluororubber and it is resistant to all media except some highly fluorinated hydrocarbons, and can withstand more than 1,600 kinds of chemical solvents, including strong acids, strong alkalis, organic solvents, superheated steam, ethers, ketones, esters, nitrogen-containing compounds, hydrocarbons, alcohols, aldehydes, furans, amine compounds, and more.

FFKM has high resistance to chemical corrosion and temperature, and its working temperature range is between 25°C to 240°C. At 300°C, its compression deformation rate is less than 50%, and some grades of the material can withstand short-term temperatures of over 350°C while maintaining elasticity and resilience when in direct contact with corrosive fluids. In practical applications, perfluoro rubber also has excellent gas tightness, high cleanliness, and ion resistance, making it widely used in the production of high-temperature, strong corrosion-resistant, and ultra-clean seals for the microelectronics industry.

Rod Seals



1. Application and properties

Suitable for one-way rod seal, can be connected in series to withstand high pressure.

It has low friction coefficient and can work with or without lubrication, and can be used for oil-free lubrication cylinder seals. It is recommended to prioritize for servo cylinders requiring rapid response. It can be used for special conditions such as extremely high speed, extremely low speed, micro-stroke etc.

The working medium adaptability and working temperature range can be changed by replacing the material of the O-ring. The installation groove is small, which is conducive to design cylinder size. The seal is easy to install and generally does not require special tools.

Compliant with GB/T 15242.1-94 and GB/T 15242.3-94 standards.

Products of different sections can be selected according to the size of the actual working pressure value, in principle, the greater the working pressure, the larger the cross-section should be selected.

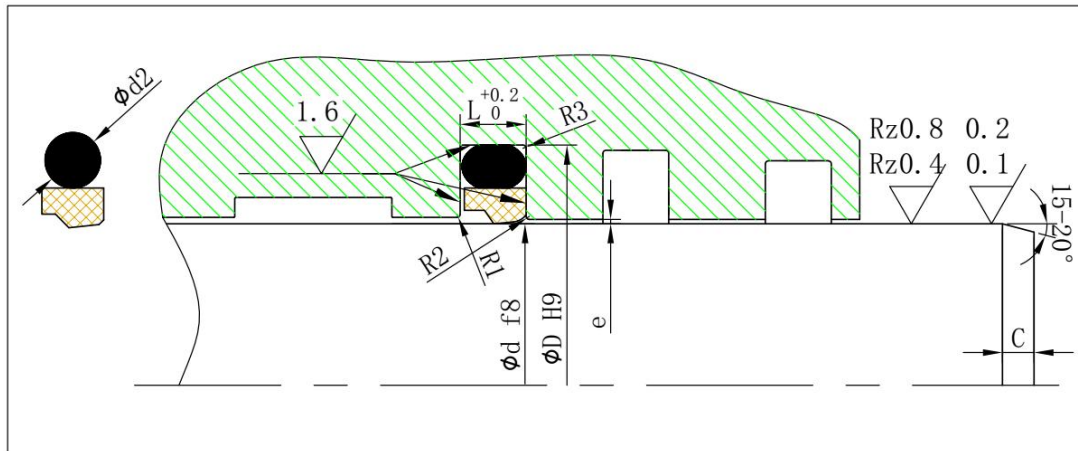
2. Standard material

Sealing ring: filled PTFE

O-Ring: NBR / FKM

3. Working Conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
3 ~ 2000mm	0 ~ 35MPa	-30 ~ 100(NBR), -20 ~ 160(FKM)	1.5m/s	Hydraulic oil, flame retardant liquid, water, gas



$R_1=0.3 \sim 0.5$; $R_2=0.1 \sim 0.2$; $R_3=0.5 \sim 1$; $C=(0.5 \sim 0.7)L$. The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

Rod Dia. d			Groove Dia.	Groove Width	Radial Clearance e			O-Ring Cross-Section
Standard Application	Light Application	Heavy Duty Application	D	L	10 MPa	20 MPa	40 MPa	d2
3 ~ 7.9	8 ~ 18.9	—	d+4.9	2.2	0.3	0.20	0.15	1.78
8 ~ 18.9	19 ~ 37.9	—	d+7.3	3.2	0.4	0.25	0.15	2.62
19 ~ 37.9	38 ~ 199.9	8 ~ 18.9	d+10.7	4.2	0.4	0.25	0.20	3.53
38 ~ 199.9	200 ~ 255.9	19 ~ 37.9	d+15.1	6.3	0.5	0.30	0.20	5.33
200 ~ 255.9	256 ~ 649.9	38 ~ 199.9	d+20.5	8.1	0.6	0.35	0.25	6.99
256 ~ 649.9	650 ~ 999.9	200 ~ 255.9	d+24.0	8.1	0.6	0.35	0.25	6.99
650 ~ 999.9	≥1000.0	256 ~ 649.9	d+27.3	9.5	0.7	0.50	0.30	8.40
≥1000.0	—	650 ~ 999.9	d+38.0	13.8	1.0	0.70	0.60	12.00

Mark it with the dimension of installation groove: GSJ Rod Dia. ×Groove Dia. ×Groove width
For example, the first seal in the Installation Dimensions table is marked as: GSJ4×8.9×2.2.



6. Installation Dimensions

Rod Dia.	Groove Dia.	Groove width	Part No.	O-Ring Dimensions
d	D	L		
4	8.9	2.2	GSJ0040	5.28×1.78
5	9.9	2.2	GSJ0050	6.75×1.78
6	10.9	2.2	GSJ0060	7.65×1.78
8	12.9	2.2	GSJ0080L	9.25×1.78
8	15.3	3.2	GSJ0080	10.77×2.62
10	14.9	2.2	GSJ0100L	11.80×1.78
10	17.3	3.2	GSJ0100	12.37×2.62
12	16.9	2.2	GSJ0120L	13.30×1.78
12	19.3	3.2	GSJ0120	13.94×2.62
14	18.9	2.2	GSJ0140L	15.60×1.78
14	21.3	3.2	GSJ0140	15.54×2.62
15	19.9	2.2	GSJ0150L	16.67×1.78
15	22.3	3.2	GSJ0150	17.12×2.62
16	20.9	2.2	GSJ0160L	17.17×1.78
16	23.3	3.2	GSJ0160	18.72×2.62
18	22.9	2.2	GSJ0180L	18.77×1.78
18	25.3	3.2	GSJ0180	20.29×2.62
19	29.7	4.2	GSJ0190	23.39×3.53
20	27.3	3.2	GSJ0200L	21.89×2.62
20	30.7	4.2	GSJ0200	23.39×3.53
22	29.3	3.2	GSJ0220L	23.47×2.62
22	32.7	4.2	GSJ0220	26.57×3.53
25	32.3	3.2	GSJ0250L	26.64×2.62
25	35.7	4.2	GSJ0250	29.74×3.53
28	38.7	4.2	GSJ0280	31.34×3.53
30	40.7	4.2	GSJ0300	34.52×3.53
32	42.7	4.2	GSJ0320	36.09×3.53
35	45.7	4.2	GSJ0350	37.69×3.53
36	46.7	4.2	GSJ0360	40.87×3.53
38	53.1	6.3	GSJ0380	43.82×5.33
40	50.7	4.2	GSJ0400L	44.04×3.53
40	55.1	6.3	GSJ0400	43.82×5.33
42	57.1	6.3	GSJ0420	46.99×5.33
45	55.7	4.2	GSJ0450L	47.22×3.53
45	60.1	6.3	GSJ0450	50.17×5.33
50	60.7	4.2	GSJ0500L	53.57×3.53
50	65.1	6.3	GSJ0500	56.52×5.33
55	70.1	6.3	GSJ0550	59.69×5.33
56	66.7	4.2	GSJ0560L	59.92×3.53
56	71.1	6.3	GSJ0560	59.69×5.33
56	76.5	8.1	GSJ0560H	62.87×6.99
60	75.1	6.3	GSJ0600	66.04×5.33
63	73.7	4.2	GSJ0630L	66.27×3.53

Rod Dia.	Groove Dia.	Groove width	Part No.	O-Ring Dimensions
d	D	L		
63	78.1	6.3	GSJ0630	69.22×5.33
65	75.7	4.2	GSJ0650L	69.44×3.53
65	80.1	6.3	GSJ0650	69.22×5.33
70	80.7	4.2	GSJ0700L	72.62×3.53
70	85.1	6.3	GSJ0700	75.57×5.33
70	90.5	8.1	GSJ0700H	78.74×6.99
75	85.7	4.2	GSJ0750L	78.97×3.53
75	90.1	6.3	GSJ0750	78.74×5.33
80	90.7	4.2	GSJ0800L	82.14×3.53
80	95.1	6.3	GSJ0800	85.09×5.33
80	100.5	8.1	GSJ0800H	88.27×6.99
85	95.7	4.2	GSJ0850L	88.49×3.53
85	100.1	6.3	GSJ0850	91.44×5.33
85	105.5	8.1	GSJ0850H	91.44×6.99
90	100.7	4.2	GSJ0900L	94.84×3.53
90	105.1	6.3	GSJ0900	95.50×5.33
90	110.5	8.1	GSJ0900H	97.79×6.99
95	105.7	4.2	GSJ0950L	98.02×3.53
95	110.1	6.3	GSJ0950	100.97×5.33
100	110.7	4.2	GSJ1000L	104.37×3.53
100	115.1	6.3	GSJ1000	104.14×5.33
100	120.5	8.1	GSJ1000H	107.32×6.99
105	120.1	6.3	GSJ1050	110.49×5.33
105	125.5	8.1	GSJ1050H	113.67×6.99
110	120.7	4.2	GSJ1100L	113.89×3.53
110	125.1	6.3	GSJ1100	113.67×5.33
110	130.5	8.1	GSJ1100H	116.84×6.99
115	130.1	6.3	GSJ1150	120.02×5.33
120	135.1	6.3	GSJ1200	126.37×5.33
120	140.5	8.1	GSJ1200H	126.37×6.99
125	140.1	6.3	GSJ1250	129.54×5.33
125	145.5	8.1	GSJ1250H	132.72×6.99
130	145.1	6.3	GSJ1300	135.89×5.33
130	150.5	8.1	GSJ1300H	135.89×6.99
140	150.7	4.2	GSJ1400L	142.47×3.53
140	155.1	6.3	GSJ1400	145.42×5.33
140	160.5	8.1	GSJ1400H	148.59×6.99
145	160.1	6.3	GSJ1450	148.59×5.33
145	165.5	8.1	GSJ1450H	151.77×6.99
150	165.1	6.3	GSJ1500	155.00×5.33
150	170.5	8.1	GSJ1500H	158.12×6.99
160	175.1	6.3	GSJ1600	164.47×5.33
160	180.5	8.1	GSJ1600H	164.47×6.99

GSJ



Installation Dimensions

Rod Dia.	Groove Dia.	Groove width	Part No.	O-Ring Dimensions
d	D	L		
165	180.1	6.3	GSJ1650	170.82×5.33
170	185.1	6.3	GSJ1700	175.00×5.33
170	190.5	8.1	GSJ1700H	177.17×6.99
180	195.1	6.3	GSJ1800	183.32×5.33
180	200.5	8.1	GSJ1800H	186.02×6.99
190	205.1	6.3	GSJ1900	196.22×5.33
200	215.1	6.3	GSJ2000L	205.00×5.33
200	220.5	8.1	GSJ2000	206.00×6.99
210	230.5	8.1	GSJ2100	215.27×6.99
220	240.5	8.1	GSJ2200	227.97×6.99
230	245.1	6.3	GSJ2300L	234.32×5.33
230	250.5	8.1	GSJ2300	236.00×6.99
240	260.5	8.1	GSJ2400	243.00×6.99
250	270.5	8.1	GSJ2500	253.37×6.99
256	280	8.1	GSJ2560	266.07×6.99
260	284	8.1	GSJ2600	266.07×6.99
270	294	8.1	GSJ2700	278.77×6.99
280	304	8.1	GSJ2800	291.47×6.99
290	314	8.1	GSJ2900	300.00×6.99
300	324	8.1	GSJ3000	307.00×6.99
320	344	8.1	GSJ3200	329.57×6.99
330	354	8.1	GSJ3300	355.00×6.99
340	364	8.1	GSJ3400	345.00×6.99
350	374	8.1	GSJ3500	354.97×6.99
360	384	8.1	GSJ3600	367.67×6.99
370	394	8.1	GSJ3700	380.37×6.99
380	404	8.1	GSJ3800	387.00×6.99
390	414	8.1	GSJ3900	400.00×6.99
400	424	8.1	GSJ4000	405.26×6.99
410	434	8.1	GSJ4100	417.96×6.99
420	444	8.1	GSJ4200	430.66×6.99
430	454	8.1	GSJ4300	437.00×6.99
440	464	8.1	GSJ4400	450.00×6.99
450	474	8.1	GSJ4500	456.06×6.99
460	484	8.1	GSJ4600	468.76×6.99

Rod Dia.	Groove Dia.	Groove width	Part No.	O-Ring Dimensions
d	D	L		
480	504	8.1	GSJ4800	487.00×6.99
490	514	8.1	GSJ4900	500.00×6.99
500	524	8.1	GSJ5000	506.87×6.99
520	544	8.1	GSJ5200	532.26×6.99
540	564	8.1	GSJ5400	552.66×6.99
550	574	8.1	GSJ5500	560.00×6.99
580	604	8.1	GSJ5800	582.68×6.99
600	624	8.1	GSJ6000	608.08×6.99
620	644	8.1	GSJ6200	633.48×6.99
630	654	8.1	GSJ6300	640.00×6.99
640	664	8.1	GSJ6400	658.88×6.99
650	677.3	9.5	GSJ6500	660.00×8.40
660	687.3	9.5	GSJ6600	670.00×8.40
680	707.3	9.5	GSJ6800	690.00×8.40
685	712.3	9.5	GSJ6850	695.00×8.40
700	727.3	9.5	GSJ7000	710.00×8.40
710	737.3	9.5	GSJ7100	720.00×8.40
730	757.3	9.5	GSJ7300	740.00×8.40
750	777.3	9.5	GSJ7500	760.00×8.40
760	787.3	9.5	GSJ7600	770.00×8.40
780	807.3	9.5	GSJ7800	790.00×8.40
790	817.3	9.5	GSJ7900	800.00×8.40
800	827.3	9.5	GSJ8000	810.00×8.40
810	837.3	9.5	GSJ8100	823.00×8.40
820	847.3	9.5	GSJ8200	830.00×8.40
830	857.3	9.5	GSJ8300	843.00×8.40
850	877.3	9.5	GSJ8500	860.00×8.40
870	897.3	9.5	GSJ8700	883.00×8.40
880	907.3	9.5	GSJ8800	890.00×8.40
890	917.3	9.5	GSJ8900	903.00×8.40
900	927.3	9.5	GSJ9000	910.00×8.40
930	957.3	9.5	GSJ9300	943.00×8.40
950	977.3	9.5	GSJ9500	960.00×8.40
1000	1027.3	9.5	GSJ10000L	1000.0×8.40
1000	1038	13.8	GSJ10000	1016.0×12.0



1. Application and properties

Suitable for one-way rod seal, can be connected in series to withstand high pressure.

It has low friction coefficient and can work with or without lubrication, and can be used for oil-free lubrication cylinder seals. It is recommended to prioritize for servo cylinders requiring rapid response. It can be used for special conditions such as extremely high speed, extremely low speed, micro-stroke etc.

The working medium adaptability and working temperature range can be changed by replacing the material of the O-ring. The installation groove is small, which is conducive to design cylinder size. The seal is easy to install and generally does not require special tools.

Compliant with GB/T 15242.1-94 and GB/T 15242.3-94 standards.

Products of different sections can be selected according to the size of the actual working pressure value, in principle, the greater the working pressure, the larger the cross-section should be selected.

2. Standard material

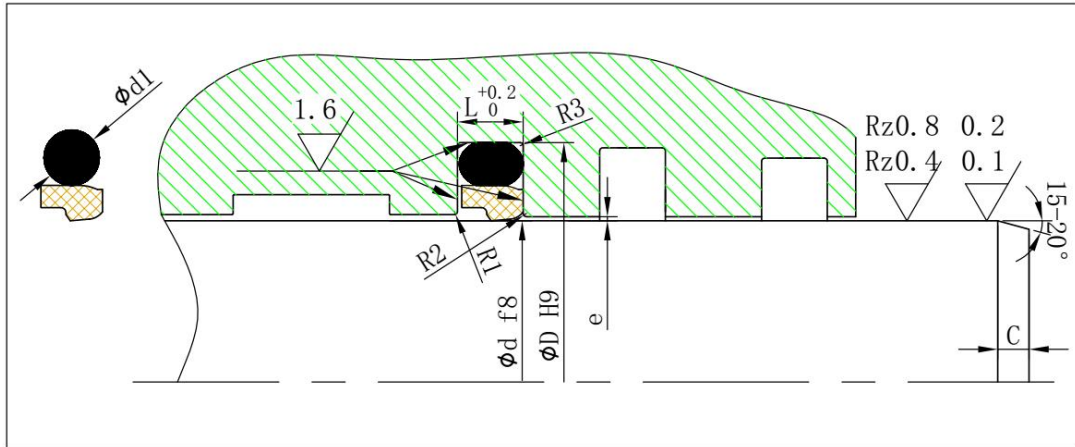
Sealing ring: filled PTFE

O-Ring: NBR / FKM

3. Working Conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
3 ~ 2000mm	0 ~ 35MPa	-30 ~ 100(NBR), -20 ~ 160(FKM)	1.5m/s	Hydraulic oil, water, gas flame retardant liquid,

RSJ



4. Related Dimensions

$R1=0.3 \sim 0.5$; $R2=0.1 \sim 0.2$; $R3=0.5 \sim 1$; $C=(0.5 \sim 0.7)L$. The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

Rod Dia. d			Groove Dia.	Groove Width	Radial Clearance e			O-Ring Cross-Section
Standard Application	Light Application	Heavy Duty Application	D	L	10 MPa	20 MPa	40 MPa	d1
3 ~ 7.9	8 ~ 18.9	—	d+4.9	2.2	0.3	0.20	0.15	1.78
8 ~ 18.9	19 ~ 37.9	—	d+7.3	3.2	0.4	0.25	0.15	2.62
19 ~ 37.9	38 ~ 199.9	8 ~ 18.9	d+10.7	4.2	0.4	0.25	0.20	3.53
38 ~ 199.9	200 ~ 255.9	19 ~ 37.9	d+15.1	6.3	0.5	0.30	0.20	5.33
200 ~ 255.9	256 ~ 649.9	38 ~ 199.9	d+20.5	8.1	0.6	0.35	0.25	6.99
256 ~ 649.9	650 ~ 999.9	200 ~ 255.9	d+24.0	8.1	0.6	0.35	0.25	6.99
650 ~ 999.9	≥ 1000.0	256 ~ 649.9	d+27.3	9.5	0.7	0.50	0.30	8.40
≥ 1000.0	—	650 ~ 999.9	d+38.0	13.8	1.0	0.70	0.60	12.0

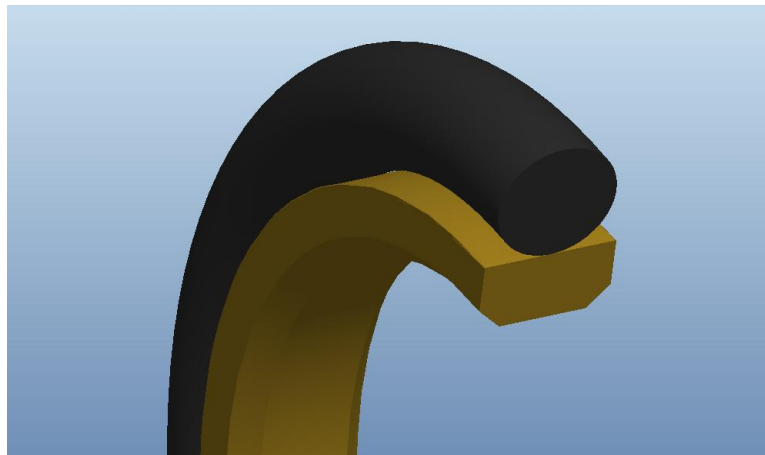
5. Marking method

Mark it with the dimension of installation groove

For example, the standard type $\phi 100$ rod step ring is marked as RSJ100×115.1×6.3

6. Installation Dimensions

Refer to GSJ Installation Dimensions table



1. Application and properties

Suitable for two-way rod sealing, with low friction, simple grooves, strong pressure resistance, and require rapid response servo cylinder recommended preference. It can be used for special conditions such as extremely high speed, extremely low speed, micro-stroke etc.

The working medium adaptability and working temperature range can be changed by replacing the material of the O-ring. The installation groove is small, which is conducive to design cylinder size. The seal is easy to install and generally does not require special tools.

Compliant with GB/T 15242.1-94 and GB/T 15242.3-94 standards.

Products of different sections can be selected according to the size of the actual working pressure value, in principle, the greater the working pressure, the larger the cross-section should be selected.

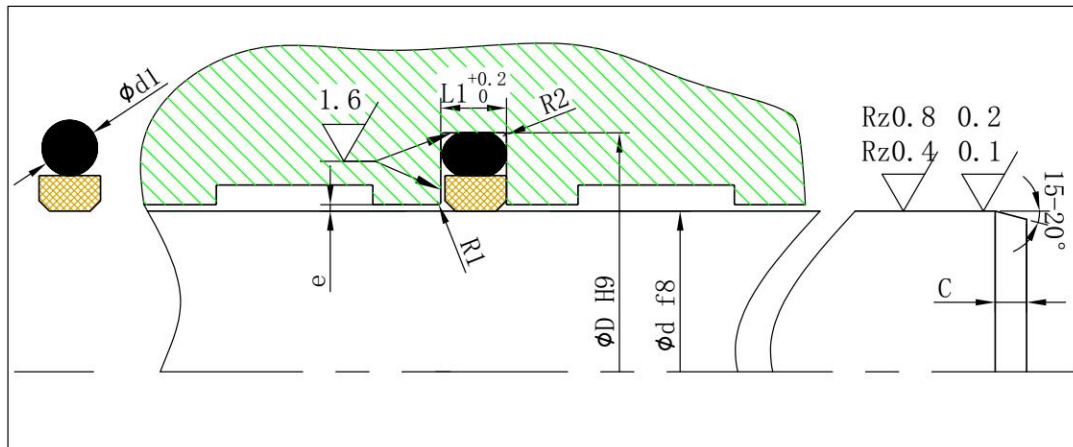
2. Standard Material

Sealing ring: filled PTFE

O-Ring: NBR / FKM

3. Working Conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
3 ~ 2000mm	0 ~ 60MPa	-30 ~ 100(NBR) -20 ~ 160(FKM)	1.5m/s	Hydraulic oil, water, gas flame retardant liquid,



4. Related Dimensions

$R1=0.1 \sim 0.2$; $R2=0.5 \sim 1$; $e=0.2 \sim 0.5$; $C=(0.5 \sim 0.7)L1$. The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

Rod Dia. d			Groove Dia.	Groove Width	Radial Clearance e			O-Ring Cross-Section
Standard Application	Light Application	Heavy Duty Application	D	L	10 MPa	20 MPa	40 MPa	d1
3 ~ 7.9	8 ~ 18.9	—	d+4.9	2.2	0.3	0.20	0.15	1.78
8 ~ 18.9	19 ~ 37.9	—	d+7.3	3.2	0.4	0.25	0.15	2.62
19 ~ 37.9	38 ~ 199.9	8 ~ 18.9	d+10.7	4.2	0.4	0.25	0.20	3.53
38 ~ 199.9	200 ~ 255.9	19 ~ 37.9	d+15.1	6.3	0.5	0.30	0.20	5.33
200 ~ 255.9	256 ~ 649.9	38 ~ 199.9	d+20.5	8.1	0.6	0.35	0.25	6.99
256 ~ 649.9	650 ~ 999.9	200 ~ 255.9	d+24.0	8.1	0.6	0.35	0.25	6.99
650 ~ 999.9	≥ 1000.0	256 ~ 649.9	d+27.3	9.5	0.7	0.50	0.30	8.40
≥ 1000.0	—	650 ~ 999.9	d+38.0	13.8	1.0	0.70	0.60	12.00

5. Marking method

Mark it with the dimension of installation groove

For example, the standard type $\phi 100$ GSI rod seal is marked as GSI100×115.1×6.3



6. Installation Dimensions

Rod Dia.	Groove Dia.	Groove width	Part No.	O-Ring Dimensions
d	D	L1		
4	8.9	2.2	GSI0040L	5.60×1.78
5	9.9	2.2	GSI0050L	6.70×1.78
6	10.9	2.2	GSI0060L	7.65×1.78
8	12.9	2.2	GSI0080L	9.50×1.78
8	15.3	3.2	GSI0080	10.77×2.62
10	14.9	2.2	GSI0100L	11.80×1.78
10	17.3	3.2	GSI0100	12.37×2.62
12	16.9	2.2	GSI0120L	14.00×1.78
12	19.3	3.2	GSI0120	13.94×2.62
14	18.9	2.2	GSI0140L	15.60×1.78
14	21.3	3.2	GSI0140	17.12×2.62
15	19.9	2.2	GSI0150L	17.17×1.78
15	22.3	3.2	GSI0150	17.12×2.62
16	20.9	2.2	GSI0160L	17.17×1.78
16	23.3	3.2	GSI0160	18.72×2.62
18	22.9	2.2	GSI0180L	20.35×1.78
18	25.3	3.2	GSI0180	20.29×2.62
19	29.7	4.2	GSI0190	23.39×3.53
20	27.3	3.2	GSI0200L	21.89×2.62
20	30.7	4.2	GSI0200	25.00×3.53
22	29.3	3.2	GSI0220L	25.07×2.62
22	32.7	4.2	GSI0220	26.57×3.53
24	31.3	3.2	GSI0240L	26.64×2.62
25	32.3	3.2	GSI0250L	28.24×2.62
25	35.7	4.2	GSI0250	29.74×3.53
26	36.7	4.2	GSI0260	29.74×3.53
28	35.3	3.2	GSI0280L	29.82×2.62
28	38.7	4.2	GSI0280	32.92×3.53
30	37.3	3.2	GSI0300L	32.99×2.62
30	40.7	4.2	GSI0300	34.52×3.53
32	39.3	3.2	GSI0320L	34.59×2.62
32	42.7	4.2	GSI0320	36.09×3.53
35	42.3	3.2	GSI0350L	37.77×2.62
35	45.7	4.2	GSI0350	37.69×3.53
36	43.3	3.2	GSI0360L	39.34×2.62
36	46.7	4.2	GSI0360	40.87×3.53

Rod Dia.	Groove Dia.	Groove width	Part No.	O-Ring Dimensions
d	D	L1		
38	48.7	4.2	GSI0380L	40.87×3.53
38	53.1	6.3	GSI0380	43.82×5.33
40	50.7	4.2	GSI0400L	44.04×3.53
40	55.1	6.3	GSI0400	43.82×5.33
42	52.7	4.2	GSI0420L	47.22×3.53
42	57.1	6.3	GSI0420	46.99×5.33
45	55.7	4.2	GSI0450L	50.39×3.53
45	60.1	6.3	GSI0450	50.17×5.33
48	58.7	4.2	GSI0480L	51.50×3.53
48	63.1	6.3	GSI0480	53.34×5.33
50	60.7	4.2	GSI0500L	53.57×3.53
50	65.1	6.3	GSI0500	56.52×5.33
52	62.7	4.2	GSI0520L	56.74×3.53
52	67.1	6.3	GSI0520	56.52×5.33
54	69.1	6.3	GSI0540	59.69×5.33
55	70.1	6.3	GSI0550	59.69×5.33
56	66.7	4.2	GSI0560L	59.92×3.53
56	71.1	6.3	GSI0560	62.87×5.33
58	73.1	6.3	GSI0580	62.87×5.33
60	70.7	4.2	GSI0600L	63.09×3.53
60	75.1	6.3	GSI0600	66.04×5.33
63	73.7	4.2	GSI0630L	66.27×3.53
63	78.1	6.3	GSI0630	69.22×5.33
65	80.1	6.3	GSI0650	69.22×5.33
67	77.7	4.2	GSI0670L	72.62×3.53
70	80.7	4.2	GSI0700L	75.79×3.53
70	85.1	6.3	GSI0700	75.57×5.33
72	82.7	4.2	GSI0720L	75.79×3.53
75	85.7	4.2	GSI0750L	78.97×3.53
75	90.1	6.3	GSI0750	81.92×5.33
80	90.7	4.2	GSI0800L	85.32×3.53
80	95.1	6.3	GSI0800	85.09×5.33
83	93.7	4.2	GSI0830L	88.49×3.53
85	100.1	6.3	GSI0850	91.44×5.33
86	96.7	4.2	GSI0860L	91.67×3.53
90	100.7	4.2	GSI0900L	94.84×3.53

GSI



Installation Dimensions

Rod Dia.	Groove Dia.	Groove width	Part No.	O-Ring Dimensions
d	D	L1		
90	105.1	6.3	GSI0900	94.62×5.33
92	102.7	4.2	GSI0920L	98.02×3.53
95	105.7	4.2	GSI0950	101.19×3.53
95	110.1	6.3	GSI0950	100.97×5.33
100	110.7	4.2	GSI1000L	104.37×3.53
100	115.1	6.3	GSI1000	107.32×5.33
105	115.7	4.2	GSI1050L	110.72×3.53
105	120.1	6.3	GSI1050	110.49×5.33
110	120.7	4.2	GSI1100L	113.89×3.53
110	125.1	6.3	GSI1100	116.84×5.33
110	130.5	8.1	GSI1100H	120.02×6.99
112	127.1	6.3	GSI1120	116.84×5.33
115	125.7	4.2	GSI1150L	120.24×3.53
115	130.1	6.3	GSI1150	120.02×5.33
118	133.1	6.3	GSI1180	123.19×5.33
120	130.7	4.2	GSI1200L	123.42×3.53
120	135.1	6.3	GSI1200	126.37×5.33
125	135.7	4.2	GSI1250L	129.77×3.53
125	140.1	6.3	GSI1250	129.54×5.33
129	139.7	4.2	GSI1290L	132.94×3.53
130	140.7	4.2	GSI1300L	136.12×3.53
130	145.1	6.3	GSI1300	135.89×5.33
135	145.7	4.2	GSI1350L	139.29×3.53
135	150.1	6.3	GSI1350	142.24×5.33
140	150.7	4.2	GSI1400L	145.64×3.53
140	155.1	6.3	GSI1400	148.82×3.53
145	155.7	4.2	GSI1150L	145.42×5.33
145	160.1	6.3	GSI1450	151.77×5.33
150	165.1	6.3	GSI1500	158.12×5.33
160	175.1	6.3	GSI1600	164.47×5.33
160	180.5	8.1	GSI1600H	170.82×6.99
170	180.7	4.2	GSI1700L	177.39×3.53
170	185.1	6.3	GSI1700	177.17×5.33
175	190.1	6.3	GSI1750	183.52×5.33
180	190.7	4.2	GSI1800L	183.74×3.53
180	195.1	6.3	GSI1800	183.52×5.33

Rod Dia.	Groove Dia.	Groove width	Part No.	O-Ring Dimensions
d	D	L1		
180	200.5	8.1	GSI1800H	189.87×6.99
190	200.7	4.2	GSI1900L	196.44×3.53
190	205.1	6.3	GSI1900	196.22×5.33
200	215.1	6.3	GSI2000L	208.92×5.33
200	220.5	8.1	GSI2000	208.92×6.99
205	220.1	6.3	GSI2050L	208.92×5.33
210	225.1	6.3	GSI2100L	215.27×5.33
220	235.1	6.3	GSI2200L	227.97×5.33
220	240.5	8.1	GSI2200	227.97×6.99
230	245.1	6.3	GSI2300L	234.32×5.33
230	250.5	8.1	GSI2300	240.67×6.99
240	255.1	6.3	GSI2400L	247.02×5.33
240	260.5	8.1	GSI2400	253.37×6.99
250	270.5	8.1	GSI2500	266.07×6.99
260	284	8.1	GSI2600	266.07×6.99
270	290.5	8.1	GSI2700L	278.77×6.99
270	294	8.1	GSI2700	278.77×6.99
275	299	8.1	GSI2750	291.47×6.99
280	300.5	8.1	GSI2800L	291.47×6.99
280	304	8.1	GSI2800	291.47×6.99
290	310.5	8.1	GSI2900L	304.17×6.99
290	314	8.1	GSI2900	304.17×6.99
300	324	8.1	GSI3000	316.87×6.99
310	334	8.1	GSI3100	316.87×6.99
320	344	8.1	GSI3200	329.57×6.99
330	354	8.1	GSI3300	342.27×6.99
340	364	8.1	GSI3400	354.97×6.99
350	374	8.1	GSI3500	367.67×6.99
360	384	8.1	GSI3600	367.67×6.99
370	394	8.1	GSI3700	380.37×6.99
380	404	8.1	GSI3800	393.07×6.99
390	414	8.1	GSI3900	405.26×6.99
400	424	8.1	GSI4000	417.96×6.99
410	434	8.1	GSI4100	417.96×6.99
420	444	8.1	GSI4200	430.66×6.99
430	454	8.1	GSI4300	443.36×6.99

C



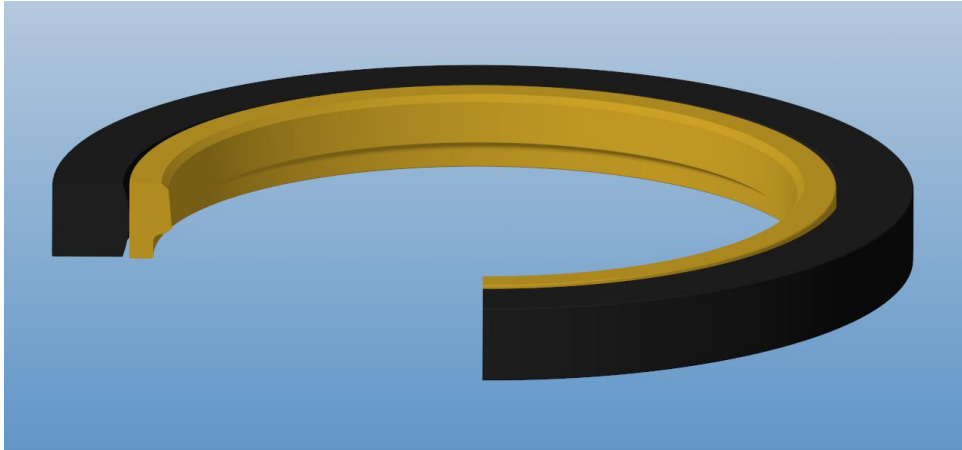
GSI

Installation Dimensions

Rod Dia.	Groove Dia.	Groove width	Part No.	O-Ring Dimensions
d	D	L1		
440	464	8.1	GSI4400	456.06×6.99
450	474	8.1	GSI4500	468.76×6.99
460	484	8.1	GSI4600	481.46×6.99
470	494	8.1	GSI4700	481.46×6.99
480	504	8.1	GSI4800	494.16×6.99
490	514	8.1	GSI4900	506.86×6.99
500	524	8.1	GSI5000	506.86×6.99
550	574	8.1	GSI5500	557.66×6.99

Rod Dia.	Groove Dia.	Groove width	Part No.	O-Ring Dimensions
d	D	L1		
600	624	8.1	GSI6000	608.08×6.99
650	677.3	9.5	GSI6500	663.00×8.40
700	724	8.1	GSI7000L	712.00×6.99
740	767.3	9.5	GSI7400	753.00×8.40
800	827.3	9.5	GSI8000	813.00×8.40
850	877.3	9.5	GSI8500	863.00×8.40
900	927.3	9.5	GSI9000	913.00×8.40
950	977.3	9.5	GSI9500	963.00×8.40

GSJ-W



C

1. Application and properties

Suitable for one-way heavy duty rod seal. Strong extrusion resistance and can be used for large working pressure. Low friction and simple groove and it can be used in the media with oil and special conditions such as extremely high speed, extremely low speed, micro-stroke etc.

The working medium adaptability and working temperature range can be changed by replacing the material of the square-ring.

The installation groove is small, which is conducive to design cylinder size. The seal is easy to install and generally does not require special tools.

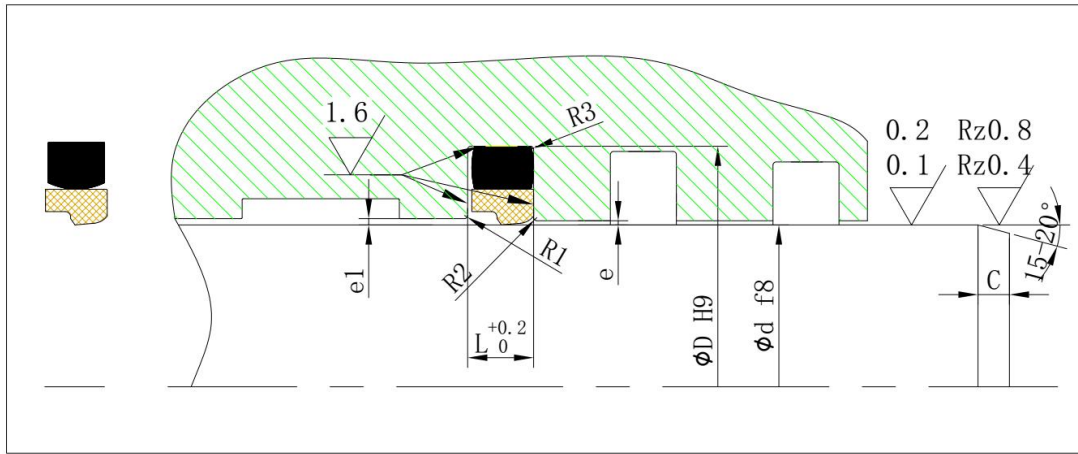
2. Standard material

Sealing ring: filled PTFE

Square Ring: NBR / FKM

3. Working conditions

Working conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
50 ~ 2000mm	0 ~ 40MPa	-30 ~ 100(NBR) -20 ~ 160(FKM)	1.5m/s	Hydraulic oil, flame retardant liquid



4. Related Dimensions

$R1=0.5 \sim 2$; $R3=0.5-2$; $e=0.2 \sim 0.5$; $e1=0.2 \sim 1$; $C=(0.5 \sim 0.7)L$. The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

Rod Dia.	Outer Dia.	Groove Width	Radius	Radial Clearance e		
				10MPa	20MPa	40MPa
d	D	L	R2			
50 ~ 69.9	d+15	7.5	0.4	0.5	0.4	0.3
70 ~ 149.9	d+20	10	0.4	0.7	0.5	0.4
200 ~ 244.9	d+25	12.5	0.4	0.8	0.6	0.5
245 ~ 519.9	d+30	15	0.8	0.9	0.7	0.6
520 ~ 769.9	d+35	17.5	1.2	1	0.8	0.7
770 ~ 1500	d+40	20	1.2	1	0.8	0.7

5. Marking method

Mark it with the dimension of installation groove

For example, the $\phi 100$ heavy-duty rod seal is marked as GSJ-W100×120×10

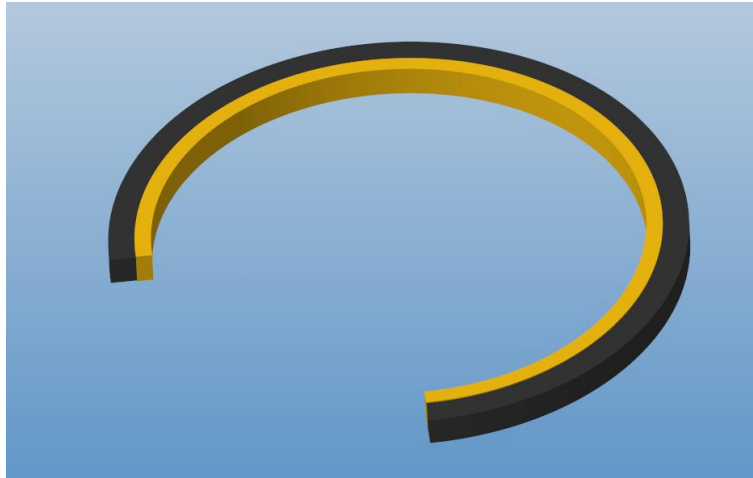
GSJ-W



6. Installation Dimensions

Rod Dia.	Outer Dia.	Groove width	Part No.
d	D	L	
50	65	7.5	GSJ-W0500
60	75	7.5	GSJ-W0600
70	85	7.5	GSJ-W0700
75	95	10	GSJ-W0750
80	100	10	GSJ-W0800
100	120	10	GSJ-W1000
110	130	10	GSJ-W1100
115	135	10	GSJ-W1150
120	140	10	GSJ-W1200
130	150	10	GSJ-W1300
140	160	10	GSJ-W1600
145	165	10	GSJ-W1450
150	170	10	GSJ-W1500
160	180	10	GSJ-W1600
170	190	10	GSJ-W1700
175	195	10	GSJ-W1750
180	200	10	GSJ-W1800
200	220	10	GSJ-W2000
230	255	12.5	GSJ-W2300
240	265	12.5	GSJ-W2400
250	275	12.5	GSJ-W2500
260	285	12.5	GSJ-W2600
265	290	12.5	GSJ-W2650
270	295	12.5	GSJ-W2700
280	305	12.5	GSJ-W2800
290	315	12.5	GSJ-W2900
300	325	12.5	GSJ-W3000
310	340	15	GSJ-W3100
315	345	15	GSJ-W3150
320	350	15	GSJ-W3200
330	360	15	GSJ-W3300
340	370	15	GSJ-W3400
350	380	15	GSJ-W3500
360	390	15	GSJ-W3600
370	400	15	GSJ-W3700
380	410	15	GSJ-W3800
390	420	15	GSJ-W3900
400	430	15	GSJ-W4000
410	440	15	GSJ-W4100
420	450	15	GSJ-W4200
430	460	15	GSJ-W4300
440	470	15	GSJ-W4400

Rod Dia.	Outer Dia.	Groove width	Part No.
d	D	L	
450	480	15	GSJ-W4500
460	490	15	GSJ-W4600
470	500	15	GSJ-W4700
480	510	15	GSJ-W4800
490	520	15	GSJ-W4900
500	530	15	GSJ-W5000
510	540	15	GSJ-W5100
520	550	15	GSJ-W5200
530	560	15	GSJ-W5300
540	575	17.5	GSJ-W5400
545	580	17.5	GSJ-W5450
550	585	17.5	GSJ-W5500
560	595	17.5	GSJ-W5600
570	605	17.5	GSJ-W5700
580	615	17.5	GSJ-W5800
590	625	17.5	GSJ-W5900
600	635	17.5	GSJ-W6000
620	655	17.5	GSJ-W6200
630	665	17.5	GSJ-W6300
640	675	17.5	GSJ-W6400
645	680	17.5	GSJ-W6450
650	685	17.5	GSJ-W6500
660	695	17.5	GSJ-W6600
670	705	17.5	GSJ-W6700
680	715	17.5	GSJ-W6800
690	725	17.5	GSJ-W6900
700	740	20	GSJ-W7000
720	760	20	GSJ-W7200
730	770	20	GSJ-W7300
740	780	20	GSJ-W7400
750	790	20	GSJ-W7500
760	800	20	GSJ-W7600
770	810	20	GSJ-W7700
790	830	20	GSJ-W7900
800	840	20	GSJ-W8000
810	850	20	GSJ-W8100
820	860	20	GSJ-W8200
830	870	20	GSJ-W8300
850	890	20	GSJ-W8500
900	940	20	GSJ-W9000
950	990	20	GSJ-W9500
1000	1040	20	GSJ-W10000



1. Application and properties

Suitable for one-way and two-way reciprocating rod sealing, particularly for heavy-duty conditions. It has strong extrusion resistance in a wide range of fluids and high-temperature environments.

Low friction, simple groove and can be used for special conditions such as extremely low speed, micro-stroke etc. The seal is easy to install and generally does not require special tools.

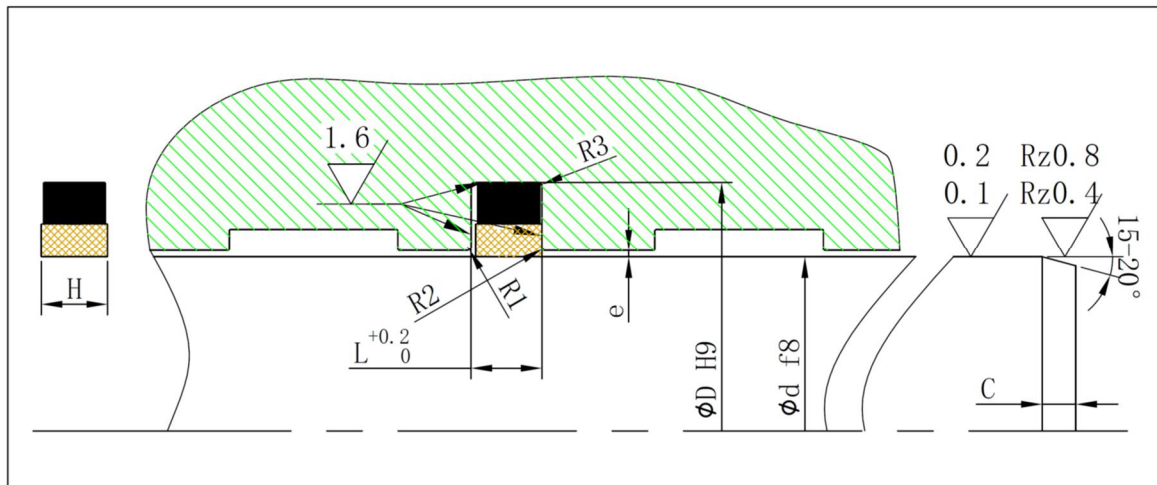
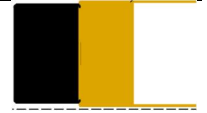
2. Standard material

Sealing ring: filled PTFE

Square rubber ring: NBR / FKM

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
18 ~ 2000mm	0 ~ 35MPa	-30 ~ 100(NBR) -20 ~ 160(FKM)	1.5m/s	general hydraulic oil, water glycol Hydraulic oil and water emulsion type hydraulic oil



4. Related Dimensions

$R1=0.3 \sim 0.5$; $R2=0.1 \sim 0.2$; $R3=0.5 \sim 1$; $e=0.2 \sim 0.5$; $C=(0.5 \sim 0.7)L$. The specific values are selected according to the section size of the seal.

5. Marking method

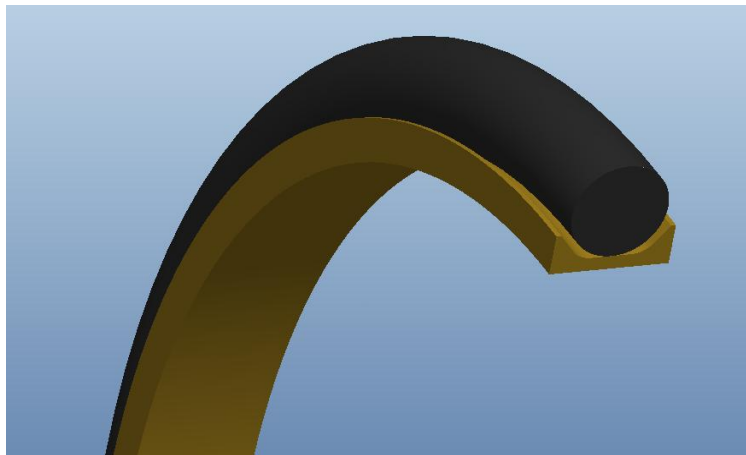
Mark it with the dimension of installation groove

For example, the $\phi 100$ SPN seal is marked as SPN100 $\times$ 113.4 $\times$ 7.5

6. Installation Dimensions

Nominal size			L	Part No.
d	D	H		
18	27	4.3	4.5	SPN0180
20	29	4.3	4.5	SPN0200
22	31	4.3	4.5	SPN0220
27	36	4.3	4.5	SPN0270
31.5	40.5	4.3	4.5	SPN0315
47	60	7.3	7.5	SPN0470
53	66	7.3	7.5	SPN0530
60	73	7.3	7.5	SPN0600
65	78	7.3	7.5	SPN0650

Nominal size			L	Part No.
d	D	H		
70	83	7.3	7.5	SPN0700
75	88	7.3	7.5	SPN0750
80	93	7.3	7.5	SPN0800
90	103.4	7.3	7.5	SPN0900
100	113.4	7.3	7.5	SPN1000
110	123.4	7.3	7.5	SPN1100
120	133.4	7.3	7.5	SPN1200
130	143.4	7.3	7.5	SPN1300
140	153.4	7.3	7.5	SPN1400



1. Application and properties

Suitable for two-way reciprocating rod seal. It has extremely low leakage and can be applied in a wide range of media and temperature conditions, with low friction. For servo cylinders that require rapid response, it is recommended to give priority to this product.

The working medium adaptability and working temperature range can be changed by replacing the material of the O-ring. The seal is easy to install and generally does not require special tools

Compliant with GB/T 15242.1-94 and GB/T 15242.3-94 standards.

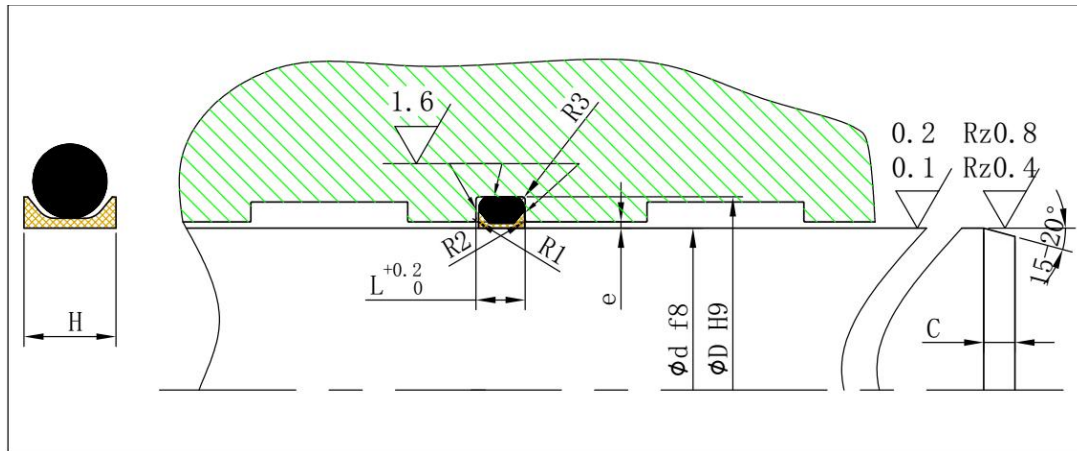
2. Standard material

Sealing ring: filled PTFE

O-Ring: NBR / FKM

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
3 ~ 2000mm	0 ~ 15MPa	-30 ~ 100(NBR) -20 ~ 160(FKM)	1.5m/s	general hydraulic oil, water, ethylene glycol emulsion



4. Related Dimensions

$R1=0.3 \sim 0.5$; $R2=0.1 \sim 0.2$; $R3=0.5 \sim 1$; $e=0.1 \sim 0.25$; $C=(0.5 \sim 0.7)L$. The specific values are selected according to the section size and working pressure of the seal.

5. Marking method

Mark it with the dimension of installation groove

For example, the Standard $\phi 100$ SPNC rod sealing ring is marked as SPNC100×110×7.5

6. Installation Dimensions

Nominal size			L	Part No.
d	D	H		
3	6	2.3	2.5	SPNC0030
4	7	2.3	2.5	SPNC0040
5	8	2.3	2.5	SPNC0050
6	9	2.3	2.5	SPNC0060
7	10	2.3	2.5	SPNC0070
8	11	2.3	2.5	SPNC0080
9	12	2.3	2.5	SPNC0090
10	13	2.3	2.5	SPNC0100
10	14	3	3.2	SPNC0100H
11	15	3	3.2	SPNC0110
11.2	15.2	3	3.2	SPNC0112
12	16	3	3.2	SPNC0120
12.5	16.5	3	3.2	SPNC0125
14	18	3	3.2	SPNC0140
15	19	3	3.2	SPNC0150

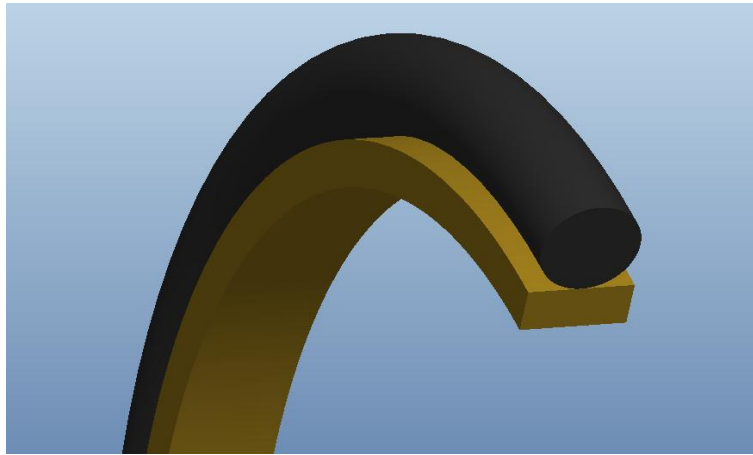
Nominal size			L	Part No.
d	D	H		
16	20	3	3.2	SPNC0160
18	22	3	3.2	SPNC0180
20	24	3	3.2	SPNC0200
20	24	3	3.2	SPNC0200
21	25	3	3.2	SPNC0210
22	26	3	3.2	SPNC0220
22	28	4.4	4.7	SPNC0220H
22.4	28.4	4.4	4.7	SPNC0224
24	30	4.4	4.7	SPNC0240
25	31	4.4	4.7	SPNC0250
25.5	31.5	4.4	4.7	SPNC0255
26	32	4.4	4.7	SPNC0260
28	34	4.4	4.7	SPNC0280
29	35	4.4	4.7	SPNC0290
29.5	35.5	4.4	4.7	SPNC0295



Installation Dimensions

Nominal size			L	Part No.
d	D	H		
30	36	4.4	4.7	SPNC0300
31	37	4.4	4.7	SPNC0310
31.5	37.5	4.4	4.7	SPNC0315
32	38	4.4	4.7	SPNC0320
34	40	4.4	4.7	SPNC0340
35	41	4.4	4.7	SPNC0350
35.5	41.5	4.4	4.7	SPNC0355
36	42	4.4	4.7	SPNC0360
38	44	4.4	4.7	SPNC0380
39	45	4.4	4.7	SPNC0390
40	46	4.4	4.7	SPNC0400
41	47	4.4	4.7	SPNC0410
42	48	4.4	4.7	SPNC0420
44	50	4.4	4.7	SPNC0440
45	51	4.4	4.7	SPNC0450
46	52	4.4	4.7	SPNC0460
48	54	4.4	4.7	SPNC0480
48	58	7	7.5	SPNC0480H
49	55	4.4	4.7	SPNC0490
50	56	4.4	4.7	SPNC0500
50	60	7	7.5	SPNC0500H
52	62	7	7.5	SPNC0520
53	63	7	7.5	SPNC0530
55	65	7	7.5	SPNC0550
56	66	7	7.5	SPNC0560
58	68	7	7.5	SPNC0580
60	70	7	7.5	SPNC0600
62	72	7	7.5	SPNC0620
63	73	7	7.5	SPNC0630
65	75	7	7.5	SPNC0650
67	77	7	7.5	SPNC0670
70	80	7	7.5	SPNC0700
71	81	7	7.5	SPNC0710
75	85	7	7.5	SPNC0750
80	90	7	7.5	SPNC0800
85	95	7	7.5	SPNC0850

Nominal size			L	Part No.
d	D	H		
90	100	7	7.5	SPNC0900
95	105	7	7.5	SPNC0950
100	110	7	7.5	SPNC1000
105	115	7	7.5	SPNC1050
110	120	7	7.5	SPNC1100
115	125	7	7.5	SPNC1150
120	130	7	7.5	SPNC1200
125	135	7	7.5	SPNC1250
130	140	7	7.5	SPNC1300
132	142	7	7.5	SPNC1320
135	145	7	7.5	SPNC1350
140	150	7	7.5	SPNC1400
145	155	7	7.5	SPNC1450
150	160	7	7.5	SPNC1500L
150	165	10.5	11	SPNC1500
155	170	10.5	11	SPNC1550
160	175	10.5	11	SPNC1600
165	180	10.5	11	SPNC1650
170	185	10.5	11	SPNC1700
175	190	10.5	11	SPNC1750
180	195	10.5	11	SPNC1800
185	200	10.5	11	SPNC1850
190	205	10.5	11	SPNC1900
195	210	10.5	11	SPNC1950
200	215	10.5	11	SPNC2000
210	225	10.5	11	SPNC2100
220	235	10.5	11	SPNC2200
230	245	10.5	11	SPNC2300
240	255	10.5	11	SPNC2400
260	275	10.5	11	SPNC2600
280	295	10.5	11	SPNC2800
300	315	10.5	11	SPNC3000
320	335	10.5	11	SPNC3200
340	355	10.5	11	SPNC3400
375	390	10.5	11	SPNC3750



C

1. Application and properties

Suitable for rod seal, mainly used in medium and high pressure cylinder, can withstand high working oil pressure. Small friction coefficient and it can be applied to the servo cylinder. It can be used for special conditions such as extremely high speed, extremely low speed etc.

The working medium adaptability and working temperature range can be changed by replacing the material of the O-ring. The installation groove is small, the seal is easy to install and generally does not require special tools.

Compliant with GB/T 15242.1-94 and GB/T 15242.3-94 standards.

It has a strong pressure bearing capacity and a larger installation clearance than general seals, which can reduce the matching accuracy of corresponding metal parts and reduce the manufacturing costs

2. Standard material

Sealing ring: filled PTFE

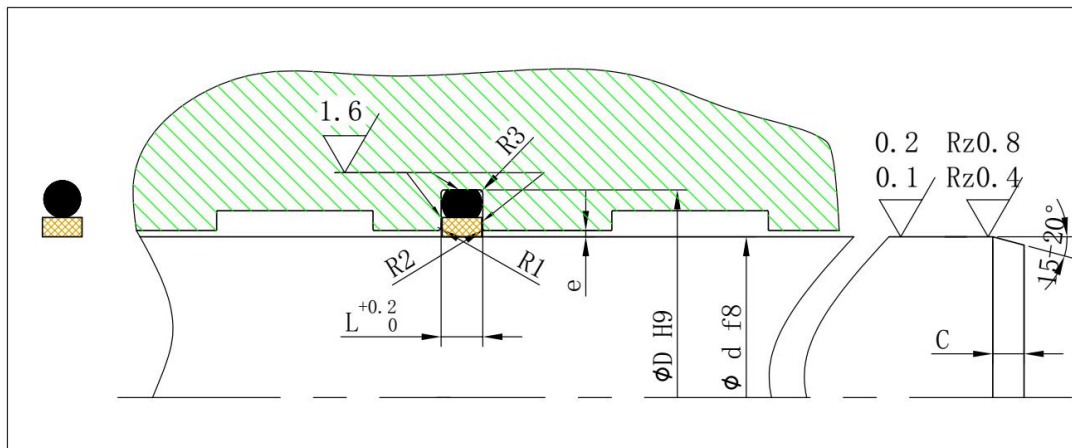
O-Ring: NBR / FKM

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
12 ~ 2000mm	0 ~ 35MPa	-30 ~ 100(NBR) -20 ~ 160(FKM)	1.5m/s	general hydraulic oil, water glycol Hydraulic oil, oil/water emulsion type hydraulic oil

4. Related Dimensions

$R1=0.3 \sim 0.5$; $R2=0.1 \sim 0.2$; $R3=0.5 \sim 1$; $e=0.2 \sim 0.5$; $C=(0.5 \sim 0.7)L$. The specific values are selected according to the section size and working pressure of the seal.



5. Marking method

Mark it with the dimension of installation groove. For example, $\phi 100$ SPNO seal is marked as SPNO100×115×6.3.

6. Installation Dimensions

Nominal size			L	Part No.
d	D	H		
12	18	3.0	3.2	SPNO0120
14	20	3.0	3.2	SPNO0140
16	22	3.0	3.2	SPNO0160
18	24	3.0	3.2	SPNO0180
20	26	3.0	3.2	SPNO0200
22	31	3.8	4.0	SPNO0220
25	34	3.8	4.0	SPNO0250
28	37	3.8	4.0	SPNO0280
30	39	3.8	4.0	SPNO0300
32	41	3.8	4.0	SPNO0320
36	45	3.8	4.0	SPNO0360
40	49	3.8	4.0	SPNO0400
45	54	3.8	4.0	SPNO0450
50	65	6.3	6.5	SPNO0500
56	71	6.3	6.5	SPNO0560
60	75	6.3	6.5	SPNO0600
63	78	6.3	6.5	SPNO0630
70	85	6.3	6.5	SPNO0700
75	90	6.3	6.5	SPNO0750
80	95	6.3	6.5	SPNO0800
85	100	6.3	6.5	SPNO0850
90	105	6.3	6.5	SPNO0900
95	110	6.3	6.5	SPNO0950
100	115	6.3	6.5	SPNO1000
105	120	6.3	6.5	SPNO1050
110	125	6.3	6.5	SPNO1100
115	130	6.3	6.5	SPNO1150
120	135	6.3	6.5	SPNO1200
125	140	6.3	6.5	SPNO1250

Nominal size			L	Part No.
d	D	H		
130	145	6.3	6.5	SPNO1300
135	150	6.3	6.5	SPNO1350
140	155	6.3	6.5	SPNO1400
145	160	6.3	6.5	SPNO1450
150	170	9.8	10.0	SPNO1500
160	180	9.8	10.0	SPNO1600
170	190	9.8	10.0	SPNO1700
180	200	9.8	10.0	SPNO1800
190	210.0	9.8	10.0	SPNO1900
200	220	9.8	10.0	SPNO2000
210	230	9.8	10.0	SPNO2100
220	240	9.8	10.0	SPNO2200
224	244	9.8	10.0	SPNO2240
230	250	9.8	10.0	SPNO2300
240	260	9.8	10.0	SPNO2400
250	270	9.8	10.0	SPNO2500
260	280	9.8	10.0	SPNO2600
270	290	9.8	10.0	SPNO2700
280	300	9.8	10.0	SPNO2800
290	310	9.8	10.0	SPNO2900
300	320	9.8	10.0	SPNO3000
310	330	9.8	10.0	SPNO3100
320	340	9.8	10.0	SPNO3200
330	350	9.8	10.0	SPNO3300
340	360	9.8	10.0	SPNO3400
350	370	9.8	10.0	SPNO3500
360	380	9.8	10.0	SPNO3600
370	390	9.8	10.0	SPNO3700
380	400	9.8	10.0	SPNO3800



C

1. Application and properties

Suitable for one-way or two-way rod seal, and has good sealing performance at medium and low pressure, with very little leakage. It has low friction coefficient and can work with or without lubrication, and can be used for oil-free lubrication cylinder seals. It is recommended to prioritize for servo cylinders requiring rapid response. It can be used for special conditions such as extremely high speed, extremely low speed, micro-stroke etc.

The working medium adaptability and working temperature range can be changed by replacing the material of the O-ring. The installation groove is small, which is conducive to design cylinder size. The seal is easy to install and generally does not require special tools.

Compliant with GB/T 15242.1-94 and GB/T 15242.3-94 standards.

Products of different sections can be selected according to the size of the actual working pressure value, in principle, the greater the working pressure, the larger the cross-section should be selected.

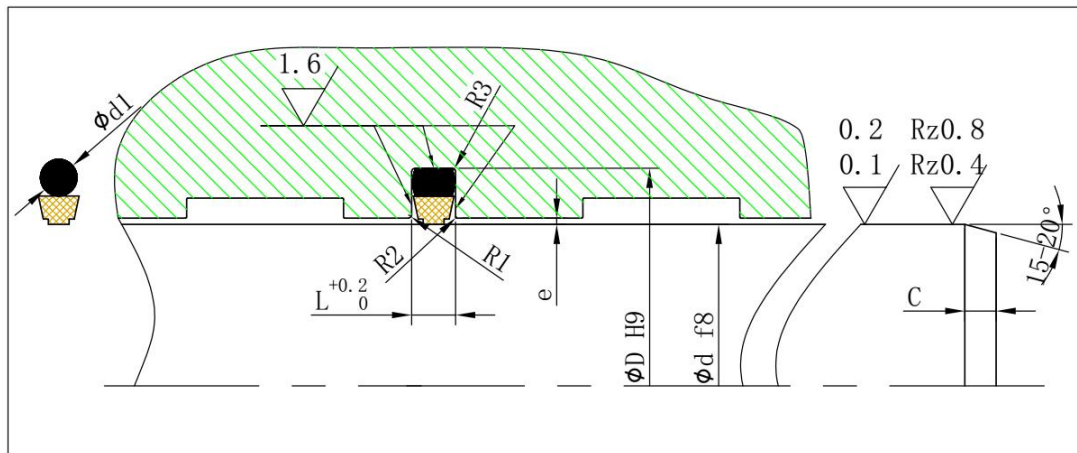
2. Standard Material

Sealing ring: filled PTFE

O-Ring: NBR / FKM

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
4 ~ 2000mm	0 ~ 25MPa	-30 ~ 100(NBR) -20 ~ 160(FKM)	1.5m/s	Hydraulic oil, water, gas flame retardant liquid,



4. Related Dimensions

$R_1=0.3 \sim 0.5$; $R_2=0.1 \sim 0.2$; $R_3=0.5 \sim 1$; $e=0.2 \sim 0.5$; $C=(0.5 \sim 0.7)L$. The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

Rod Dia. d			Groove Dia.	Groove Width	Radial Clearance e			O-Ring Cross-Section
Standard Application	Light Application	Heavy Duty Application	D	L	10 MPa	20 MPa	40 MPa	d1
3 ~ 7.9	8 ~ 18.9	—	d+4.9	2.2	0.3	0.20	0.15	1.78
8 ~ 18.9	19 ~ 37.9	—	d+7.3	3.2	0.4	0.25	0.15	2.62
19 ~ 37.9	38 ~ 199.9	8 ~ 18.9	d+10.7	4.2	0.4	0.25	0.20	3.53
38 ~ 199.9	200 ~ 255.9	19 ~ 37.9	d+15.1	6.3	0.5	0.30	0.20	5.33
200 ~ 255.9	256 ~ 649.9	38 ~ 199.9	d+20.5	8.1	0.6	0.35	0.25	6.99
256 ~ 649.9	650 ~ 999.9	200 ~ 255.9	d+24.0	8.1	0.6	0.35	0.25	6.99
650 ~ 999.9	≥ 1000.0	256 ~ 649.9	d+27.3	9.5	0.7	0.50	0.30	8.40
≥ 1000.0	—	650 ~ 999.9	d+38.0	13.8	1.0	0.70	0.60	12.00

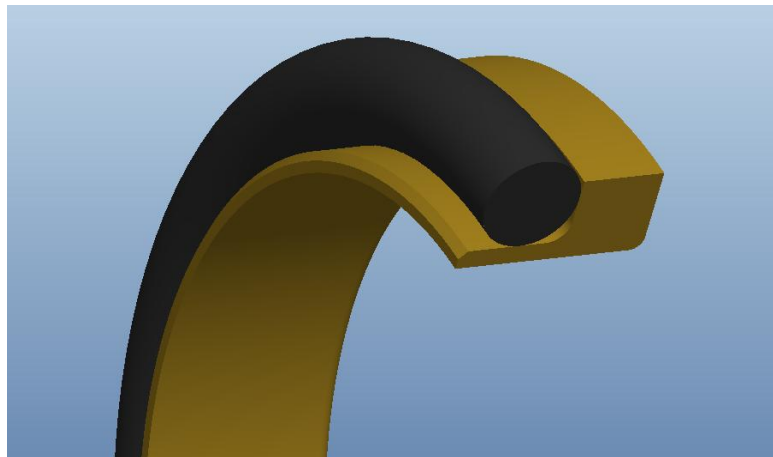
5. Marking method

Mark it with the dimension of installation groove

For example, the standard $\phi 100$ GZT rod seal is marked as GZT100×115.1×6.3

6. Installation Dimensions

Refer to GSI Installation Dimensions table



C

1. Application and properties

Suitable for reciprocating and one-way rod seal, and has good sealing performance at high, medium and low pressure. Its working pressure range is broad, even it can be used for high-pressure and ultra-high pressure seal. It can be installed in series in the same direction to increase pressure bearing capacity.

Low friction coefficient and it can work with or without lubrication. Good wear resistance and long serve life.

The working medium of the sealing sleeve is widely adaptable,

Operating temperature range from -30°C to $+160^{\circ}\text{C}$ (depending on the O-Ring). It can be used for special conditions such as extremely high speed, extremely low speed, micro-stroke etc.

The groove is open and the biggest feature is small leakage and long life.

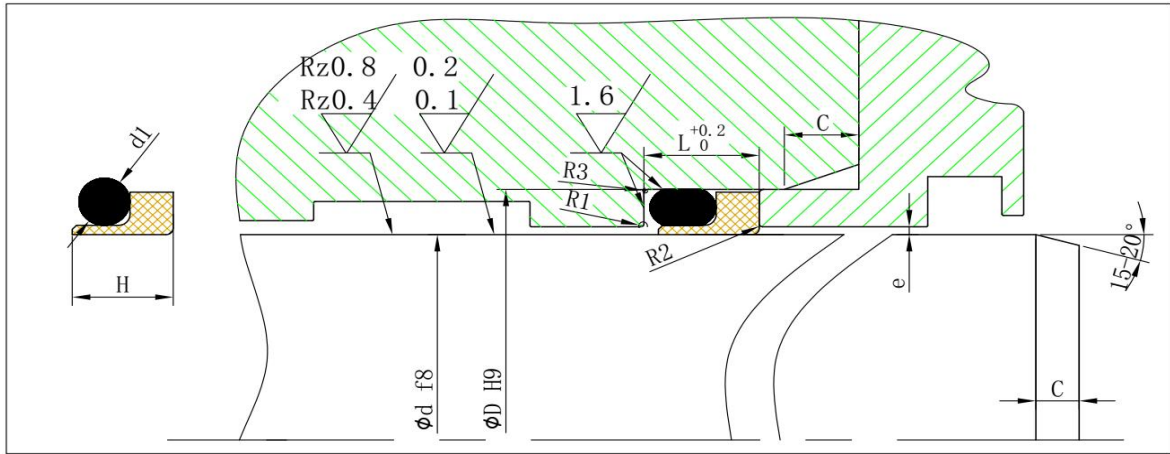
2. Standard Material

Sealing ring: filled PTFE

O-Ring: NBR / FKM

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
5 ~ 2000mm	0 ~ 60MPa	-30 ~ 100(NBR) -20 ~ 160(FKM)	1.5m/s	High and low temperature oil water, Steam and other fluids



4. Related Dimensions

$R1=0.2 \sim 0.5$; $R2=0.1 \sim 0.2$; $R3=0.3 \sim 0.5$; $C=(0.7 \sim 1.0)L$; The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

Rod Dia. d			Groove Dia.	Groove Width	Width	Radial Clearance e		O-Ring Cross-Section
Standard Application	Light Application	Heavy Duty Application	D	L	H	<20MPa	<60MPa	d1
-	5 ~ 17.9	-	d+3.6	4.7	4.2	0.20	0.15	1.80
5 ~ 17.9	18 ~ 39.9	-	d+5.2	6.1	5.5	0.25	0.15	2.65
18 ~ 39.9	40 ~ 99.9	5 ~ 17.9	d+6.8	8.0	7.0	0.25	0.20	3.55
40 ~ 99.9	100 ~ 629.9	18 ~ 39.9	d+10.2	11.2	10.0	0.30	0.20	5.30
100 ~ 629.9	630 ~ 1000	40 ~ 99.9	d+13.4	14.2	12.7	0.35	0.25	6.99
630 ~ 1000	-	100 ~ 629.9	d+16.0	16.2	14.5	0.50	0.30	8.60
-	-	630 ~ 1000	d+18.8	18.6	16.8	0.60	0.40	10.0

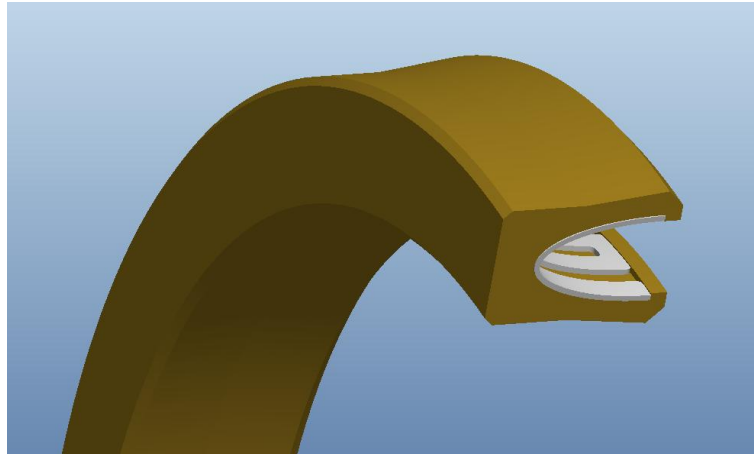
5. Marking method

Mark it with the dimension of installation groove as below:

DSJR "Rod Diameter d" × "Groove Diameter D" × "Groove Width L"

For example, DSJR 100×113.4×14.2 means DSJR seal groove dimension: Rod Dia. 100, Groove Dia. 113.4, Groove width 14.2.

FSKR-V



C

1. Application and properties

Suitable for one-way piston seal and reciprocating rod seal, with a wide range of working pressure adaptation. It provides better sealing effectiveness at medium to high pressures and can enhance pressure resistance by increasing the tail length dimension or adding back-up rings.

The friction coefficient is small, the contact pressure with the matching surface is low, the friction with the matching surface is the smallest among all seal types, can work with or without lubrication. It has good wear resistance and long life. The working medium of the sealing sleeve is widely adaptable, and other chemicals do not react with it except soluble alkali metal, high temperature fluorine gas and chlorine trifluoride.

Operating temperature range from -200°C to $+250^{\circ}\text{C}$. Can be used for extremely high speed, extremely low speed, micro-stroke and other special conditions

Suitable for aviation, military and industrial seal groove sizes, standard mounting grooves are as small as standard O-ring mounting grooves. It can also be designed as a non-standard part to meet the sealing requirements of any size trench. The grooves are open or semi-open.

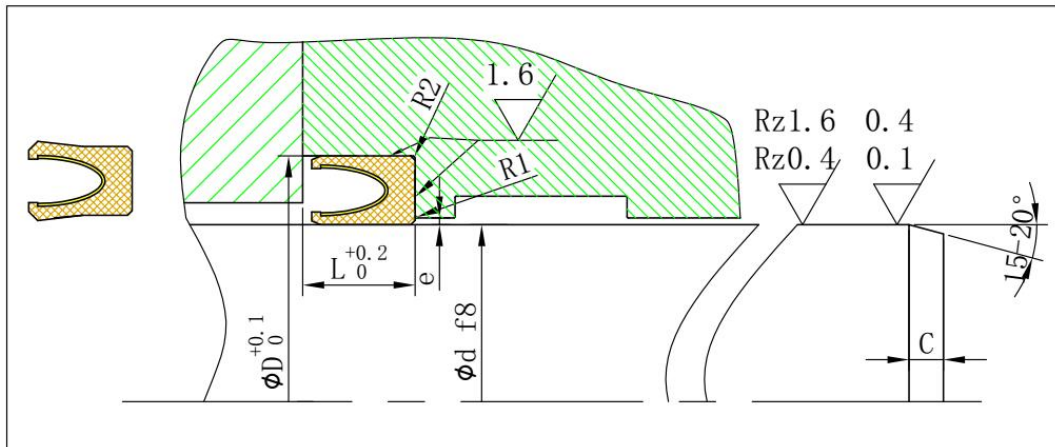
2. Standard Material

Sealing ring: filled PTFE

Spring: SUS301, 302, 304, 316 or 718. Default use SUS301, please specify if there are special requirement/400A

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
2 ~ 2000mm	0 ~ 80MPa	$-200 \sim 250^{\circ}\text{C}$	5m/s	High and low temperature oil water, Steam and other fluids



4. Related Dimensions

$R1=0.1 \sim 0.2$; $R2=0.3 \sim 0.5$; $C=(0.5 \sim 1)L$; The specific values are selected according to the section size of the seal.

The remaining values are listed in the table below:

Rod Dia.	Groove Width	Groove Dia.	Radial Clearance e
d	L	D	e
2 ~ 10	2.5	d+3.0	0.050
10 ~ 22	3.2	d+4.0	0.065
22 ~ 52	4.7	d+6.0	0.075
48 ~ 150	7.5	d+10.0	0.090
150 ~ 400	11.0	d+15.0	0.100

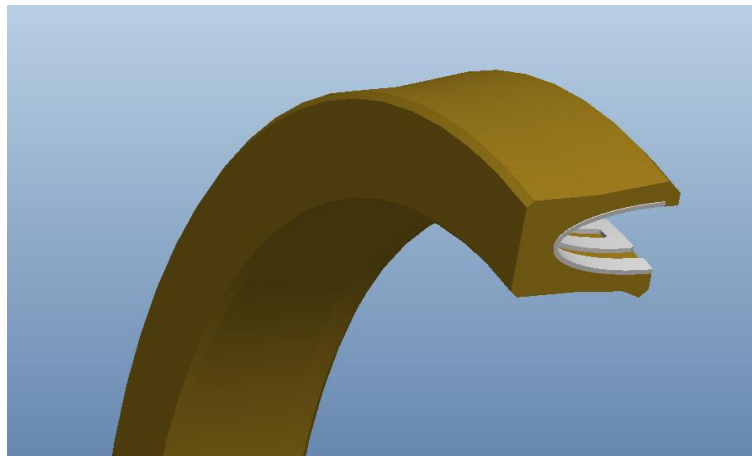
5. Marking method

Mark with the dimension of installation groove as below:

FSKR "Bore Diameter D" × "Groove Diameter d" × "Groove Width L" - "Spring material" V

For example, FSKR-100×90×7.5-304V means FSKR-V Seals working dimension: Bore Dia. 100, Groove Dia.90, Groove width 7.5, Spring material: SUS304, V shape

FSR-V



C

1. Application and properties

Suitable for one-way and reciprocating rod seal, and has good sealing performance at high, medium and low pressure. The working pressure range is broad. Pressure resistance can be enhanced by increasing the tail length dimension or adding a back-up ring

The friction coefficient is small, the contact pressure with the matching surface is low, the friction with the matching surface is the smallest among all seal types, can work with or without lubrication. It has good wear resistance and long life. The working medium of the sealing sleeve is widely adaptable, and other chemicals do not react with it except soluble alkali metal, high temperature fluorine gas and chlorine trifluoride.

Operating temperature range from -200°C to $+250^{\circ}\text{C}$. Can be used for extremely high speed, extremely low speed, micro-stroke and other special conditions

Suitable for aviation, military and industrial seal groove sizes, standard mounting grooves are as small as standard O-ring mounting grooves. It can also be designed as a non-standard part to meet the sealing requirements of any size trench. The grooves are open or semi-open.

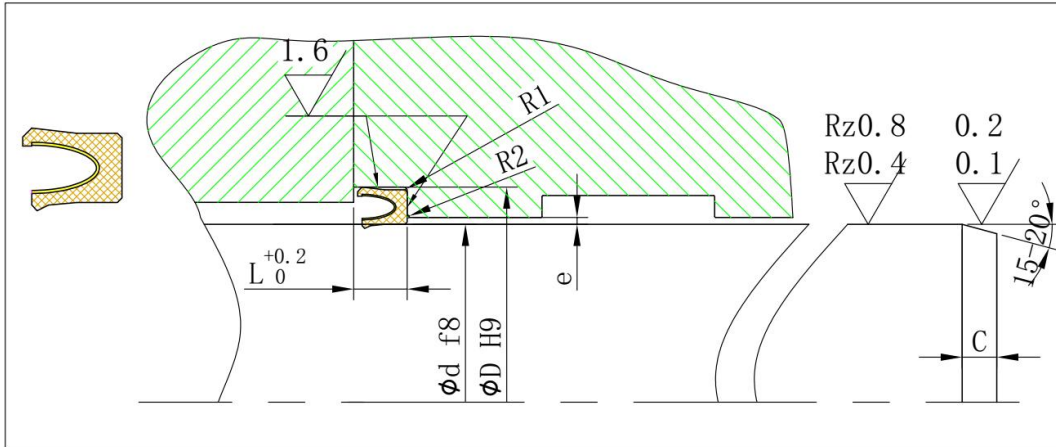
2. Standard Material

Sealing ring: filled PTFE

Spring: SUS301, 302, 304, 316 or 718. Default use SUS301, please specify if there are special requirement/400A

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
2 ~ 2000mm	0 ~ 80MPa	-200 ~ 250 $^{\circ}\text{C}$	5m/s	High and low temperature oil water, Steam and other fluids



4. Related Dimensions

$R1=0.3 \sim 0.5$; $R2=0.1 \sim 0.2$; $C=(0.5 \sim 1)L$; The specific values are selected according to the section size of the seal.

The remaining values are listed in the table below:

Rod Dia.	Groove Width	Groove Dia.	Radial Clearance e
d	L	D	e
2 ~ 10	2.5	d+3.0	0.050
10 ~ 22	3.2	d+4.0	0.065
22 ~ 52	4.7	d+6.0	0.075
48 ~ 150	7.5	d+10.0	0.090
150 ~ 400	11.0	d+15.0	0.100

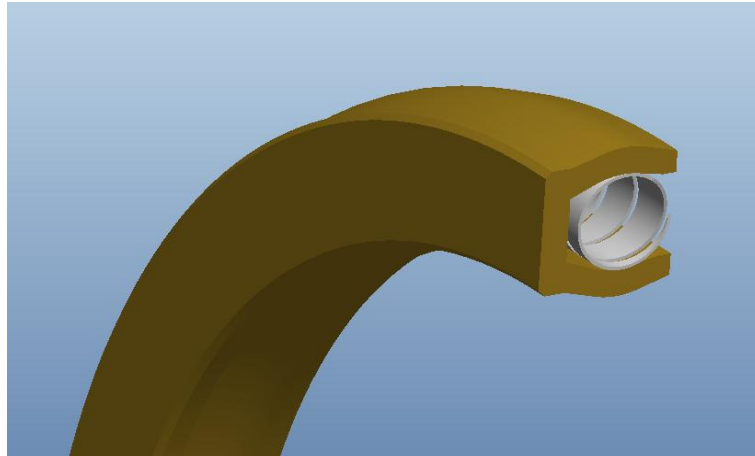
5. Marking method

Marking it with the dimension of installation groove as below:

FSR"Rod Diameter d"×"Groove Diameter D"×"Groove Width L" - "Spring Material"V

For example, FSR100×110×7.5-304V means FSR-V seal groove dimension: Rod Dia.100, Groove Dia. 110, Groove width 7.5, Spring material SUS304, V-shape

FSKR-O



1. Application and properties

Suitable for one-way piston seal and reciprocating rod seal. It has good sealing performance at high, medium and low pressure. The working pressure range is broad. Pressure resistance can be enhanced by adding a back-up ring

The friction coefficient is small, the friction with the matching surface is small and it can work with or without lubrication. It has good wear resistance and long life

The working medium of the sealing sleeve is widely adaptable, and other chemicals do not react with it except soluble alkali metal, high temperature fluorine gas and chlorine trifluoride.

Operating temperature range from -200°C to +250°C.

It can be used for special conditions such as vacuum, low temperature, static sealing, extremely low speed, and small stroke.

Suitable for aviation, military and industrial sealing groove size. Small installation groove and the groove is open or semi-open.

2. Standard Material

Sealing ring: filled PTFE

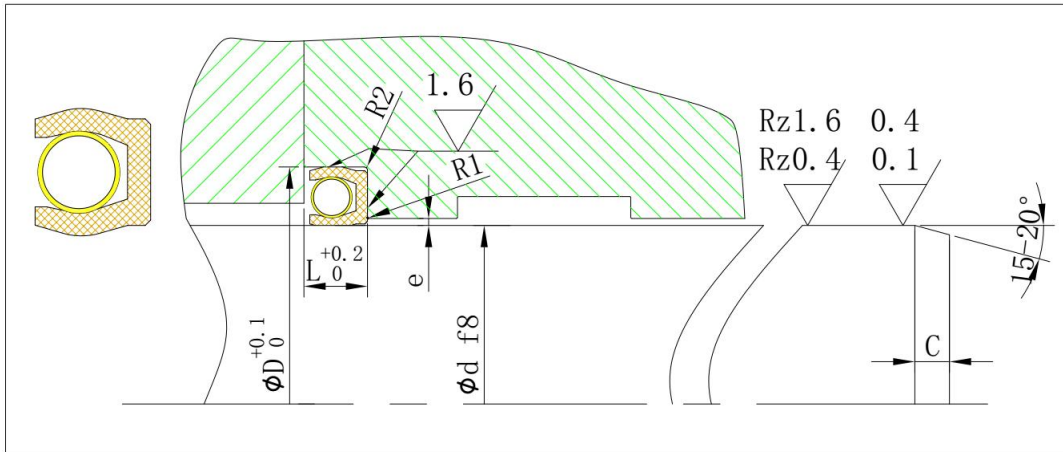
Spring: SUS301, 302, 304, 316 or 718. Default use SUS301, please specify if there are special requirement/103A

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
2 ~ 2000mm	0 ~ 80MPa	-200 ~ 250°C	0.5m/s	High and low temperature oil water, Steam and other fluids



FSKR-O



4. Related Dimensions

$R1=0.1 \sim 0.2$; $R2=0.3 \sim 0.5$; $C=(0.5 \sim 1)L$; The specific values are selected according to the section size of the seal.

The remaining values are listed in the table below:

Rod Dia.	Groove Width	Groove Dia.	Radial Clearance e
d	L	D	e
2 ~ 10	2.5	d+3.0	0.050
10 ~ 22	3.2	d+4.0	0.065
22 ~ 52	4.7	d+6.0	0.075
48 ~ 150	7.5	d+10.0	0.090
150 ~ 1000	11	d+15.0	0.100

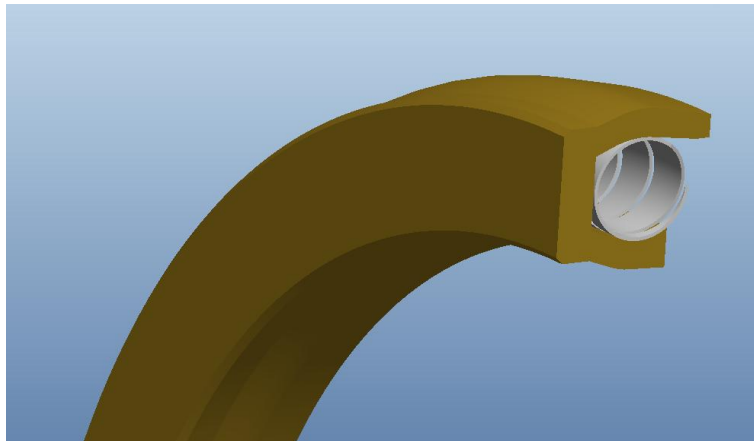
5. Marking method

Mark it with the dimension of installation groove as below:

FSKR "Groove Diameter/Bore Diameter D" × "Rod Diameter d" × "Groove Width L" – "Spring" O

For example, FSKR100×90×7.5-316O means FSKR-O seal working dimension: Rod Dia.90, Groove Dia./ Bore Dia. 100, Groove Width7.5, Spring material SUS316 O-shape

FSR-O



1. Application and properties

Suitable for one-way and reciprocating rod seal, and has good sealing performance at high, medium and low pressure. The working pressure range is wide and pressure resistance can be enhanced by adding a back-up ring.

The friction coefficient is small, the contact pressure with the matching surface is low, the friction with the matching surface is small and it can work with or without lubrication. It has good wear resistance and long life.

The working medium of the sealing sleeve is widely adaptable, and other chemicals do not react with it except soluble alkali metal, high temperature fluorine gas and chlorine trifluoride.

Operating temperature range from -200°C to $+250^{\circ}\text{C}$.

It can be used for special conditions such as vacuum, low temperature, static sealing, extremely low speed, and small stroke.

Suitable for sealing groove sizes in aviation, military and industrial fields. The installation groove is small and groove is open or semi-open.

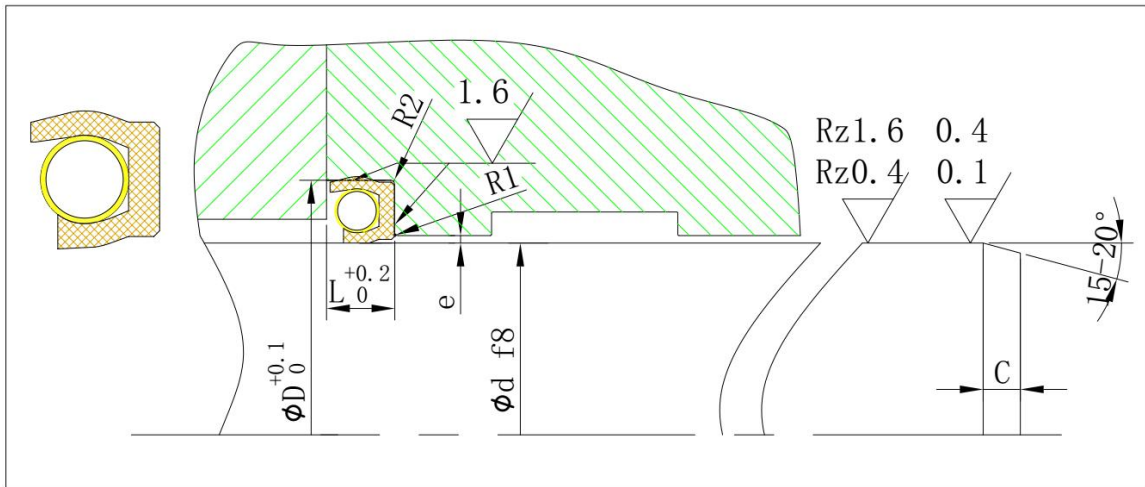
2. Standard Material

Sealing ring: filled PTFE

Spring: SUS301, 302, 304, 316 or 718. Default use SUS301, please specify if there are special requirement/103A

3. Working Conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
2 ~ 2000mm	0 ~ 80MPa	-200 ~ 250 $^{\circ}\text{C}$	0.5m/s	High and low temperature oil water, Steam and other fluids



4. Related Dimensions

$R1=0.1 \sim 0.2$; $R2=0.3 \sim 0.5$; $C=(0.5 \sim 1)L$; The specific values are selected according to the section size of the seal.

The remaining values are listed in the table below:

Rod Dia.	Groove Width	Groove Dia.	Radial Clearance e
d	L	D	e
2 ~ 10	2.5	d+3.0	0.05
10 ~ 22	3.2	d+4.0	0.065
22 ~ 52	4.7	d+6.0	0.075
48 ~ 150	7.5	d+10.0	0.09
150 ~ 1000	11	d+15.0	0.10

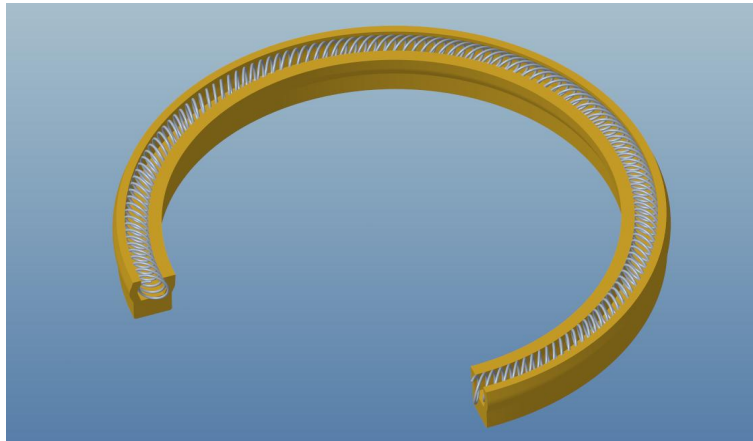
5. Marking method

Mark it with the dimension of installation groove as below:

FSR "Rod Diameter d" × "Groove Diameter D" × "Groove Width L" - "Spring Material" O Shape

For example, FSR100×110×7.5-316O means FSR-O seal working dimension: Rod Dia. 100, Groove Dia. 110, Groove Width 7.5, Spring material SUS316, O-shape

FSR-X



C

1. Application and properties

Suitable for one-way and reciprocating rod seal. It provides good sealing performance at high, medium, and low pressures. The working pressure range is wide and pressure resistance can be enhanced by adding a back-up ring

The friction coefficient is small, the contact pressure with the matching surface is low, the friction with the matching surface is small and it can work with or without lubrication. It has good wear resistance and long life

The working medium of the sealing sleeve is widely adaptable, and other chemicals do not react with it except soluble alkali metal, high temperature fluorine gas and chlorine trifluoride.

Operating temperature range from -200°C to $+250^{\circ}\text{C}$. And it can be used in special working conditions such as extremely high speed, extremely low speed, and micro-stroke.

The spring is a oblique spiral type, and the spring force remains constant within a larger deformation range, so it can be used in working conditions with some eccentricity. The cross-sectional shape of the spring is elliptical, which provides good lip support for the sealing component and has a long sealing life.

Suitable for sealing groove sizes in aviation, military and industrial field. The installation groove is small and groove is open or semi-open.

2. Standard Material

Sealing ring: filled PTFE

Spring: SUS301, 302, 304, 316 or 718. Default use SUS301, please specify if there are special requirement /APS

3. Working Conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
2 ~ 2000mm	0 ~ 80MPa	-200 ~ 250 $^{\circ}\text{C}$	15m/s	High and low temperature oil water, Steam and other fluids



C

C

C

Rod Dia.	Groove Width	Groove Dia.	Radial Clearance e
d	L	D	e
2 ~ 10	2.5	d+3.0	0.05
10 ~ 22	3.2	d+4.0	0.065
22 ~ 52	4.7	d+6.0	0.075
48 ~ 150	7.5	d+10.0	0.09
150 ~ 1000	11	d+15.0	0.10

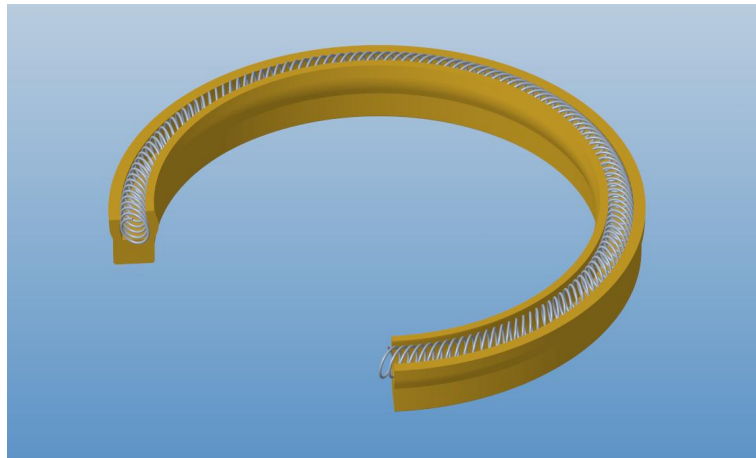
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FSKR-X



1. Application and properties

Suitable for one-way piston seal and reciprocating rod seal, which has good sealing performance at high and low pressure. The working pressure range is wide, and the pressure resistance can be enhanced by adding back-up rings.

The friction coefficient is small, the contact pressure with the matching surface is low, the friction with the matching surface is small and it can work with or without lubrication. It has good wear resistance and long life.

The working medium of the sealing sleeve is widely adaptable, and other chemicals do not react with it except soluble alkali metal, high temperature fluorine gas and chlorine trifluoride.

Operating temperature range from -200°C to $+250^{\circ}\text{C}$. And it can be used in special working conditions such as extremely high speed, extremely low speed, and micro-stroke.

Suitable for sealing groove sizes in aviation, military and industrial field. The installation groove is small and groove is open or semi-open.

2. Standard Material

Sealing ring: filled PTFE

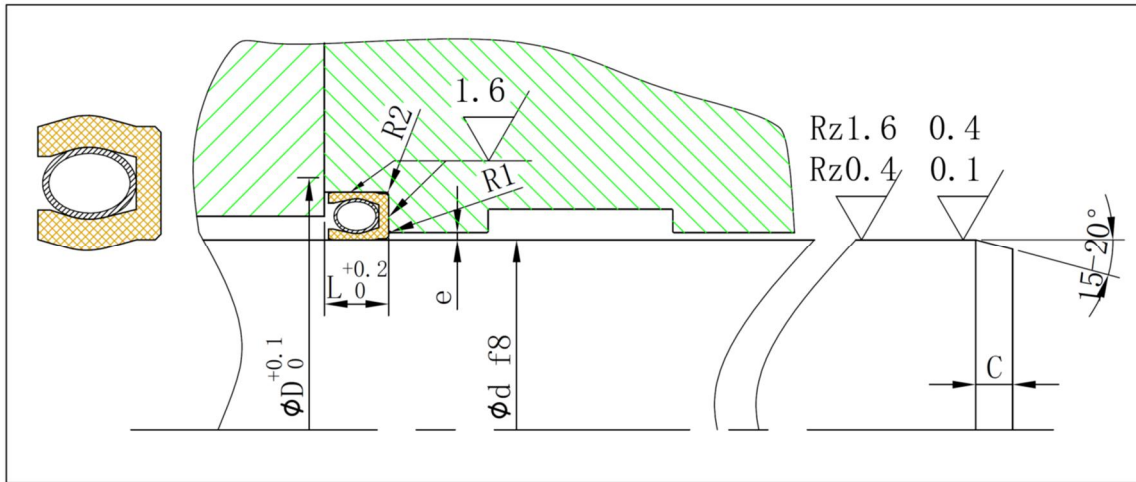
Spring: SUS301, 302, 304, 316 or 718. Default use SUS301, please specify if there are special requirement /APS

3. Working Conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
2 ~ 2000mm	0 ~ 80MPa	-200 ~ 250 $^{\circ}\text{C}$	15m/s	High and low temperature oil water, Steam and other fluids



FSKR-X



4. Related Dimensions

$R1=0.1 \sim 0.2$; $R2=0.3 \sim 0.5$; $C=(0.5 \sim 1)L$; The specific values are selected according to the section size of the seal.

The remaining values are listed in the table below:

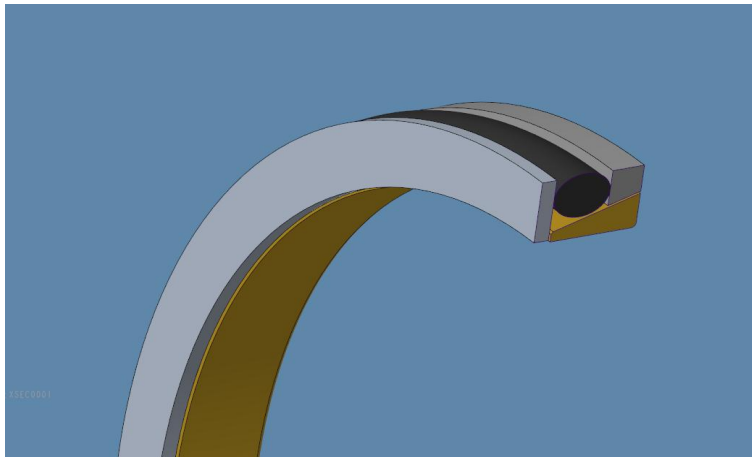
Rod Dia.	Groove Width	Groove Dia.	Radial Clearance e
d	L	D	e
2 ~ 10	2.5	d+3.0	0.050
10 ~ 22	3.2	d+4.0	0.065
22 ~ 52	4.7	d+6.0	0.075
48 ~ 150	7.5	d+10.0	0.090
150 ~ 1000	11	d+15.0	0.100

5. Marking method

Marking it with the dimension of installation groove as below:

FSKR "Groove Diameter/Bore Diameter D" × "Rod Diameter d" × "Groove Width L" - "Spring Material" X Shape

For example, FSKR100×90×7.5-316X means FSKR-X seal working dimension: Rod Dia.90, Groove Dia. /Bore Dia.100, Groove Width 7.5, Spring material SUS316, oblique spiral-shaped



1. Application and properties

The seal consists of four parts: slip ring, back-up ring 1, O-ring and back-up ring 2. Suitable for one-way and reciprocating rod seal reciprocating rod and has good sealing performance at medium and low pressure. In particular, the low pressure sealing performance is better. Can be used for rod seal alone, is the ideal choice for servo cylinder rod seal.

The closed installation groove makes it especially convenient to install the seal into the groove.

The friction coefficient is small, the contact pressure with the matching surface is low, the friction with the matching surface is small and it can work with or without lubrication. It has good wear resistance and long life.

The working medium of the sealing sleeve is widely adaptable, and each component can be selected with the appropriate material according to the working condition.

Operating temperature range from -20°C to $+150^{\circ}\text{C}$.

Can be used for extremely high speed, extremely low speed, micro-stroke and other special conditions

2. Standard Material

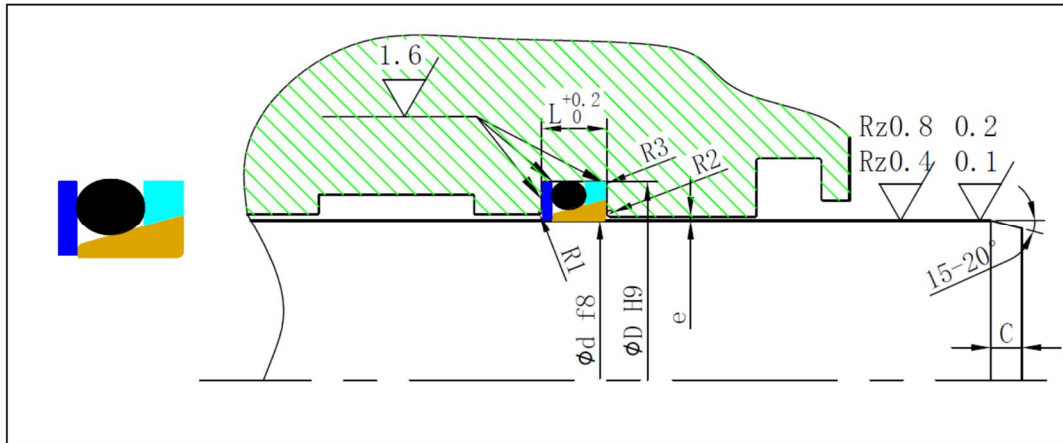
Sealing ring: filled PTFE

O-Ring: NBR/FKM

Back-up ring 1 and Back-up ring 2: filled PTFE/POM/PA

3. Working Conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
2 ~ 2000mm	0 ~ 20MPa	-20 ~ 150 $^{\circ}\text{C}$	2m/s	oil water, Steam and other fluids



4. Related Dimensions

$R1=0.2 \sim 0.5$; $R2=0.1 \sim 0.2$; $R3=0.2 \sim 0.3$; $C=(0.5 \sim 1.0)L$; The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

Rod Dia.	Groove Width	Groove Diameter	Radial Clearance e
d	L	D	e
40 ~ 80	7.3	d+8.4	0.15
80 ~ 150	11	d+13	0.25
150 ~ 500	14.5	d+17	0.50
500 ~ 1600	20.5	d+24.0	1.00

5. Marking method

Mark it with the dimension of installation groove as below:

DSR "Rod Diameter d" × "Groove Diameter D" × "Groove Width L"

For example, DSR100×113×11 means DSR rod seal Installation Groove Dimension: Rod Dia.100, Groove Dia. 113, Groove Width 11.



C

1. Application and properties

Suitable for one-way and reciprocating rod seal, and has excellent dynamic and static sealing performance at high, medium and low pressure.

The work pressure adaptation range is wide. When used independently at medium and low pressure, the pressure resistance can be strengthened by increasing a back-up ring. When the pressure is high, it is used together with a buffer seal. The pressure resistance of the sealing system can reach 40MPa. if a buffer seal is added in front of this seal, and a back-up ring is installed behind it.

Operating temperature range from -30°C to $+110^{\circ}\text{C}$.

The installation groove meets the requirements of ISO5597/1 international standard. Also can provide non-standard size products. Closed groove, easy installation of seals

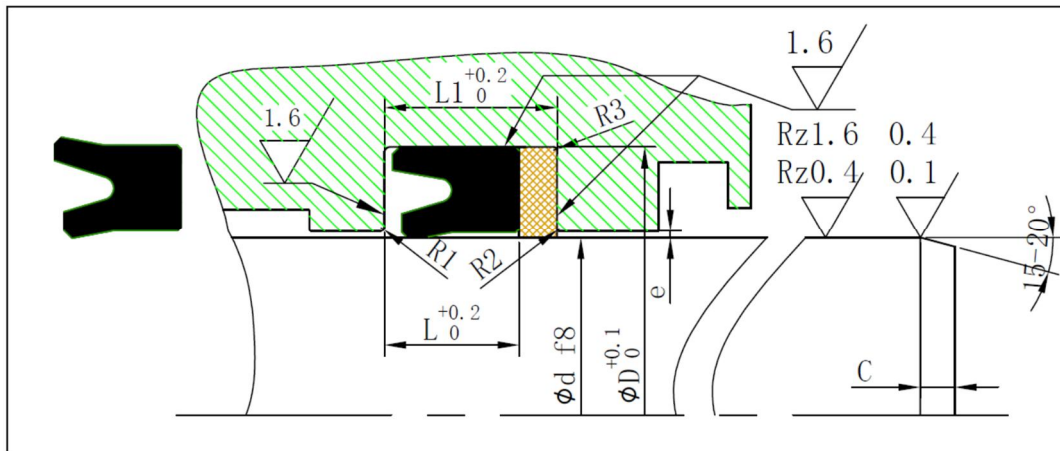
Strong residual oil retraction ability under reciprocating motion, with minimal residual oil on the rod.

2. Standard Material

NBR/TPU

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
18 ~ 500mm	0 ~ 30MPa	$-30 \sim 110^{\circ}\text{C}$	0.5m/s	Hydraulic oil



4. Related Dimensions

$R1=0.2 \sim 0.5$; $R2=0.1 \sim 0.2$; $R3=0.2 \sim 0.3$; $C=(0.5 \sim 1.0)L$. The specific values are selected according to the section size of the seal. The remaining values are referred to Installation Dimensions table: L stands for the Groove Width without back-up ring and L1 stands for the groove Width with back-up ring.

5. Marking method

Mark it with the dimension of installation groove as below:

For example, the first seal in Installation Dimensions table is marked as URL-18×26×5.7

6. Installation Dimensions

Rod Dia.	Groove Dia.	Groove Width	Groove Width
d	D	L	L1
18	26	5.7	7.7
20	28	5.7	7.7
22.4	30	5.7	7.7
22.4	30.4	5.7	7.7
23.5	31.5	5.7	7.7
25	33	5.7	7.7
25	35	5.7	7.7

Rod Dia.	Groove Dia.	Groove Width	Groove Width
d	D	L	L1
28	35.5	5.7	8.7
28	36	5.7	8.7
30	40	7	10
31.5	41.5	7	10
35	45	7	10
35.5	45	7	10
35.5	45.5	7	10

URL

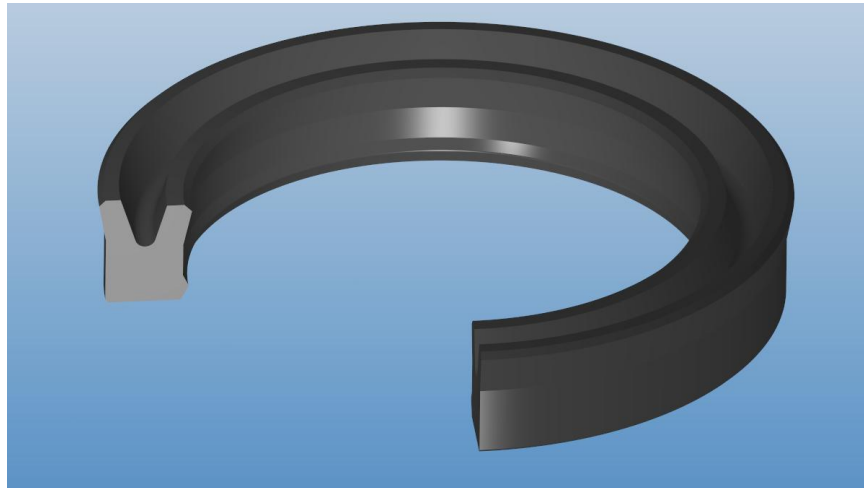


Installation Dimensions

Rod Dia.	Groove Dia.	Groove Width	Groove Width
d	D	L	L1
36	46	7	10
40	50	7	10
45	55	7	10
45	56	8	11
50	60	7	10
53	63	7	10
55	65	7	10
56	66	7	10
60	70	7	10
60	71	8	11
63	73	7	10
65	75	7	10
67	77	7	10
70	80	7	10
71	81	7	10
75	85	7	10
80	90	7	10
85	100	10	13
90	105	10	13
95	110	10	13
98	112	9.5	12.5
100	115	10	13
105	120	10	13
106	120	9.5	12.5
106	121	10	13
110	125	10	13
112	125	10	13
115	130	10	13

Rod Dia.	Groove Dia.	Groove Width	Groove Width
d	D	L	L1
118	133	10	13
120	135	10	13
125	140	10	13
130	145	10	13
136	150	9.5	12.5
140	155	10	13
145	160	10	13
150	165	10	13
155	170	10	14
160	175	10	14
165	180	10	14
170	185	10	14
175	190	10	14
180	200	13	17
190	210	13	17
200	220	13	17
204	224	13	17
210	230	13	17
220	240	13	17
225	245	13	17
230	250	13	17
240	260	13	17
250	270	13	17
260	285	17	21
270	295	17	21
280	305	17	21
290	315	17	21
300	325	17	21

C



1. Application and properties:

Suitable for one-way reciprocating rod seal. and has excellent dynamic and static sealing performance at high, medium and low pressure.

The sealing surface has two lips, and the sealing medium between the two lips is used as a lubricant, which avoids dry friction and wear to a certain extent, and the friction coefficient is greatly reduced compared with the sealing parts of the same type of single lip, and the life is prolonged. The double mouth structure prevents the entry of outside air, reduces the gas in the working medium, and increases the sealing capacity at low pressure.

It is suitable for a wide range of working pressures and can be used independently at medium to low pressures. The pressure resistance can also be enhanced by adding retaining rings. At higher pressures, it can be used in combination with a buffer seal. By adding a buffer seal in front of this seal and installing a back-up ring at the base of this seal, the sealing system can withstand pressures up to 35MPa.

Operating temperature range from -30°C to +110°C.

The installation groove meets the requirements of ISO5597/1 international standard. Non-standard sizes are also available. Closed groove, easy installation of seals.

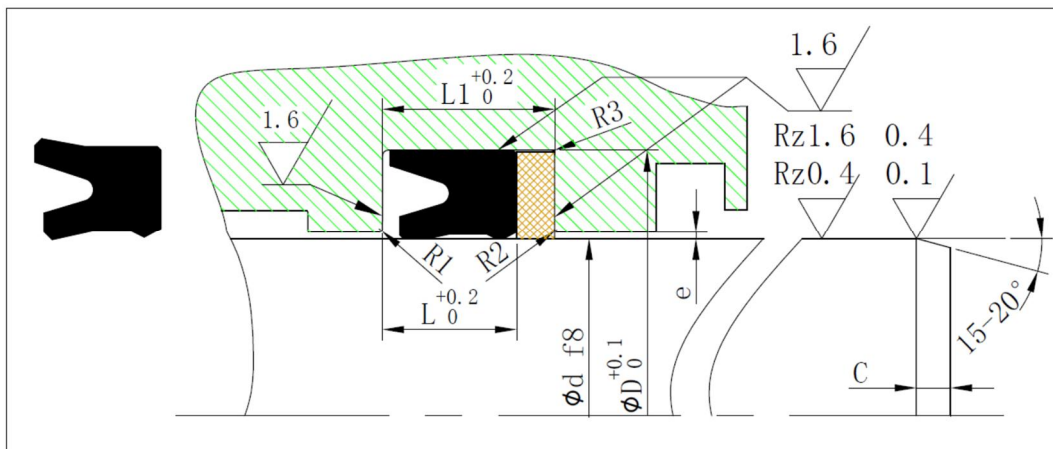
Strong residual oil retraction ability under reciprocating motion, with minimal residual oil on the rod.

2. Standard Material

NBR/TPU

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
16 ~ 500mm	0 ~ 35MPa	-30 ~ 110°C	0.5m/s	Hydraulic oil



4. Related Dimensions

$R1=0.2 \sim 0.5$; $R2=0.1 \sim 0.2$; $R3=0.2 \sim 0.3$; $C=(0.5 \sim 1)L$; The specific values are selected according to the section size of the seal. The remaining values are referred to Installation Dimensions table: L stands for the Groove Width without back-up ring and L1 stands for the groove Width with back-up ring.

5. Marking method

Marking it with the dimension of installation groove as below:

For example, the first seal in Installation Dimensions table is marked as URD-16×24×6.3

6. Installation Dimensions

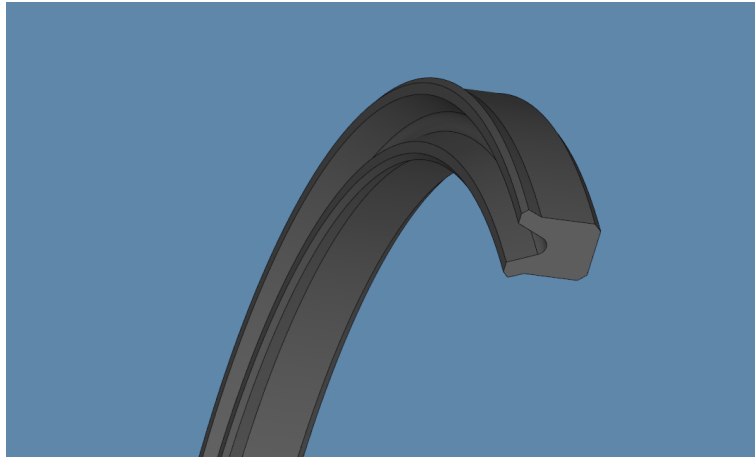
Rod Dia.	Groove Dia.	Groove Width	Groove Width
d	D	L	L1
16	24	6.3	8.3
16	26	8	10
20	30	8	10
22	32	8	10
25	33	7.3	9.3
25	35	8	10
26	36	11	13
28	36	7.5	9.5

Rod Dia.	Groove Dia.	Groove Width	Groove Width
d	D	L	L1
28	38	8	10
30	40	11	13
30	45	11	13
32	42	8	10
32	42	11	13
32	45	11	13
35	45	11	13
35	47	17.5	19.5



Rod Dia.	Groove Dia.	Groove Width	Groove Width
d	D	L	L1
36	46	8	10
36	51	11	13
40	49.5	10.5	13.5
40	50	11	14
40	52	9	12
40	55	12.5	15.5
43	53	8	11
45	53	6.3	9.3
45	55	8	11
45	55	11	14
45	60	12.5	15.5
46	56	11	14
48	56	12.5	15.5
50	60	8	11
50	60	11	14
50	65	12.5	15.5
52	62	11	14
55	65	11	14
55	67	11	14
56	71	12.5	15.5
60	68	14	17
60	70	8.5	11.5
60	70	11	14
60	75	11	14
63	71	8	11
63	78	12.5	15.5
64	72	10	13
65	73	12.5	15.5
65	75	13	16
65	85	12.5	15.5
68	78	13	16
70	80	13	16
70	85	12.5	15.5
75	88	11	14

Rod Dia.	Groove Dia.	Groove Width	Groove Width
d	D	L	L1
80	90	13	16
80	95	12.5	15.5
80	100	13	16
85	93	12.5	15.5
85	100	13	16
90	98	12.5	15.5
90	105	12.5	15.5
92	107	12.5	15.5
95	115	13	16
100	108	13	16
100	120	16	19
105	113	12.5	15.5
107	115	12.5	15.5
110	125	16	19
110	130	16	19
118	126	14	17
120	130	15	18
125	133	12.5	15.5
130	145	13	16
140	160	16	19
145	153	12.5	15.5
150	170	16	19
152	160	10	14
160	185	20	24
167	175	12.5	16.5
170	200	19	23
176	186	13	17
180	188	12.5	16.5
193	201	12.5	16.5
200	211	13	17
200	225	20	24
220	250	25	29
223	231	12.5	16.5
230	260	25	29



C

1. Application and properties

Suitable for one-way and reciprocating rod seal. and has excellent dynamic and static sealing performance at medium and low pressure.

The small section of the seal adds great flexibility to the dimensional design of the cylinder structure

Suitable for both rod seal and piston seals.

The work pressure adaptation range is relatively wide. When used independently at low pressure, the pressure resistance can be strengthened by increasing the back-up ring. When the pressure is high, it is used together with a buffer seal. The pressure resistance of the sealing system can reach 20MPa. if a buffer seal is added in front of this seal, and a back-up ring is installed behind it.

Closed groove, easy installation of seals.

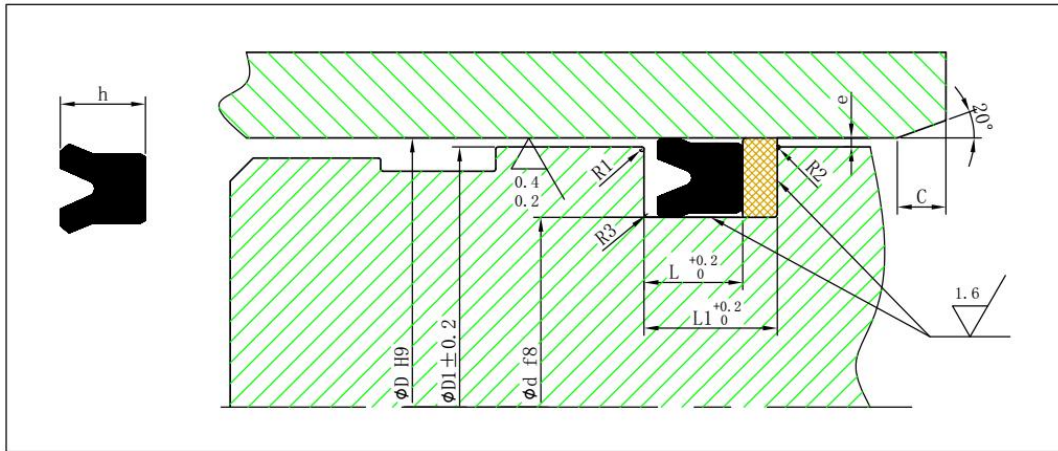
Strong residual oil retraction ability under reciprocating motion, with minimal residual oil on the rod.

2. Standard Material

NBR / FKM

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
12 ~ 500mm	0 ~ 20MPa	-25 ~ 100(NBR), -10 ~ 150(FKM)	0.5m/s	Hydraulic oil



4. Related Dimensions

$R1=0.2 \sim 0.5$; $R2=0.1 \sim 0.2$; $R3=0.2 \sim 0.3$. The specific values are selected according to the section size of the seal. The remaining values are referred to Installation Dimensions table: L stands for the Groove Width without back-up ring and L1 stands for the groove Width with back-up ring.

5. Marking method

Marking it with the dimension of installation groove as below:

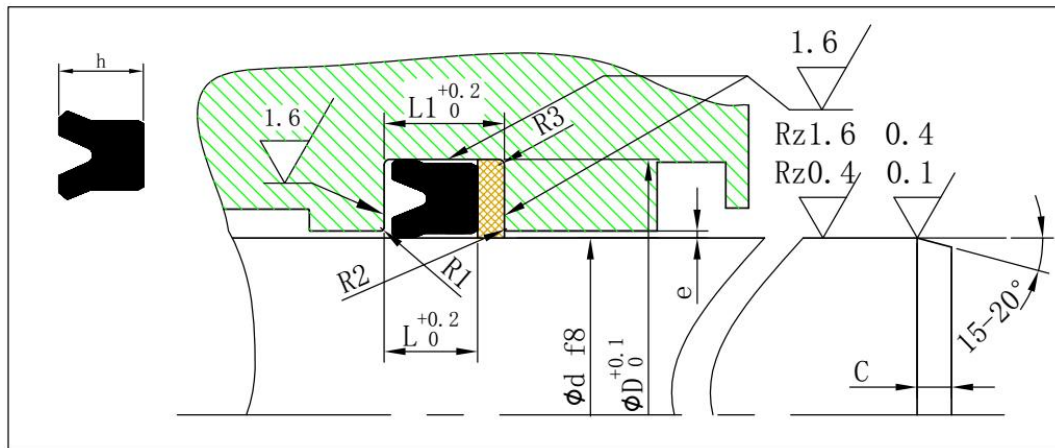
For example, the first seal in Installation Dimensions table can be marked as UL12×20×5.7

6. Installation Dimensions

d	D	h	L	L1	D1	C
12	20	5	5.7	7.7	19	2
14	22	5	5.7	7.7	21	2
16	24	5	5.7	7.7	23	2
18	26	5	5.7	7.7	25	2
20	28	5	5.7	7.7	27	2
22	30	5	5.7	7.7	29	2
22.4	30	5	5.7	7.7	29	2
23.5	31.5	5	5.7	7.7	31.5	2
24	32	5	5.7	7.7	31	2
25	33	5	5.7	7.7	32	2.5
27	35	5	5.7	8.7	34	2.5
28	35.5	5	5.7	8.7	34.5	2.5
28	36	5	5.7	8.7	35	2.5
30	40	6	7	10	39	2.5
25	33	5	5.7	7.7	32	2.5
27	35	5	5.7	8.7	34	2.5

d	D	h	L	L1	D1	C
28	35.5	5	5.7	8.7	34.5	2.5
28	36	5	5.7	8.7	35	2.5
30	40	6	7	10	39	2.5
31.5	41.5	6	7	10	40.5	2.5
32	42	6	7	10	41	2.5
35	45	6	7	10	44	2.5
35.5	45	6	7	10	44	2.5
35.5	45.5	6	7	10	44.5	2.5
36	46	6	7	10	45	2.5
40	50	6	7	10	49	2.5
45	55	6	7	10	54	2.5
45	56	7	8	11	55	2.5
50	60	6	7	10	59	2.5
53	63	6	7	10	62	2.5
55	65	6	7	10	64	2.5
56	66	6	7	10	65	2.5

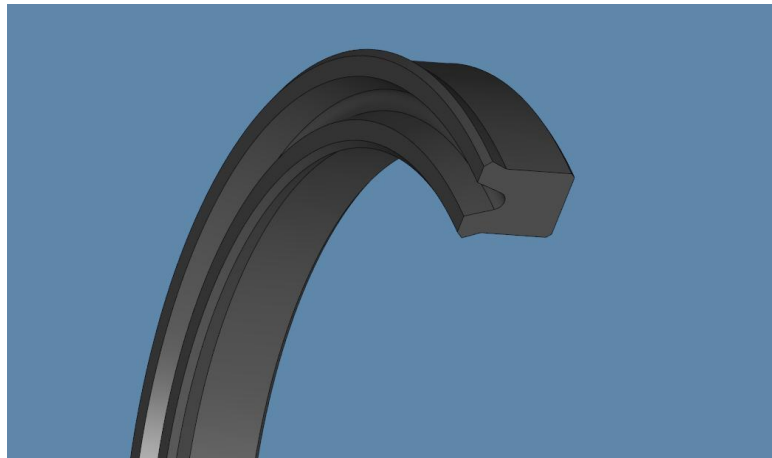
UL



Installation Dimensions

d	D	h	L	L1	D1	C
58	68	6	7	10	67	2.5
60	70	6	7	10	69	2.5
60	71	7	8	11	70	2.5
63	73	6	7	10	72	2.5
65	75	6	7	10	74	2.5
67	77	6	7	10	76	2.5
70	80	6	7	10	79	2.5
71	80	6	7	10	79	2.5
75	85	6	7	10	84	2.5
80	90	6	10	10	89	2.5
85	95	6	10	10	94	4
85	100	9	10	13	98	4
90	105	9	10	13	103	4
95	110	9	10	13	108	4
98	112	8.5	9.5	12.5	110	4
100	115	9	10	13	113	4
106	120	8.5	9.5	12.5	118	4
110	125	9	10	13	123	4
112	125	8.5	9.5	12.5	123	4
112	125	9	10	13	123	4
115	130	8.5	9.5	12.5	128	4
118	132	8.5	9.5	12.5	130	4
125	140	9	10	13	138	4
130	145	9	10	13	143	4
132	145	8.5	9.5	12.5	143	4
136	150	8.5	9.5	12.5	148	4
140	155	9	10	13	153	4

d	D	h	L	L1	D1	C
145	160	9	10	13	158	4
150	165	9	10	13	163	4
155	170	9	10	14	168	4
160	175	9	10	14	173	4
165	180	9	10	14	178	4
170	185	9	10	14	183	4
175	190	9	10	14	188	4
180	200	12	13	17	198	5
190	210	12	13	17	208	5
195	215	12	13	17	213	5
200	220	12	13	17	218	5
204	224	12	13	17	222	5
220	240	12	13	17	238	5
224	244	12	13	17	242	5
230	250	12	13	17	248	5
240	260	12	13	17	258	5
250	270	12	15	17	268	5
260	280	14	15	19	278	5
280	300	14	15	19	298	5
295	315	14	15	19	313	5
300	320	12	13	17	318	5
335	355	14	15	19	353	5
355	375	14	15	19	373	5
380	400	14	15	19	398	5
400	420	14	15	19	418	5
450	470	14	15	20	468	5
500	525	17	18	23	523	6.5



1. Application and properties

Suitable for one-way and reciprocating rod seal. and has excellent dynamic and static sealing performance at high, medium and low pressure.

The cross-section of the seal is large, and it has a strong pressure bearing capacity.

Suitable for both rod seals and piston seals

The work pressure adaptation range is relatively wide. When used independently at low pressure, the pressure resistance can be strengthened by increasing the back-up ring. When the pressure is high, it is used together with a buffer seal. The pressure resistance of the sealing system can reach 20MPa. if a buffer seal is added in front of this seal, and a back-up ring is installed behind it.

Closed groove, easy installation of seals.

Strong residual oil retraction ability under reciprocating motion, with minimal residual oil on the rod.

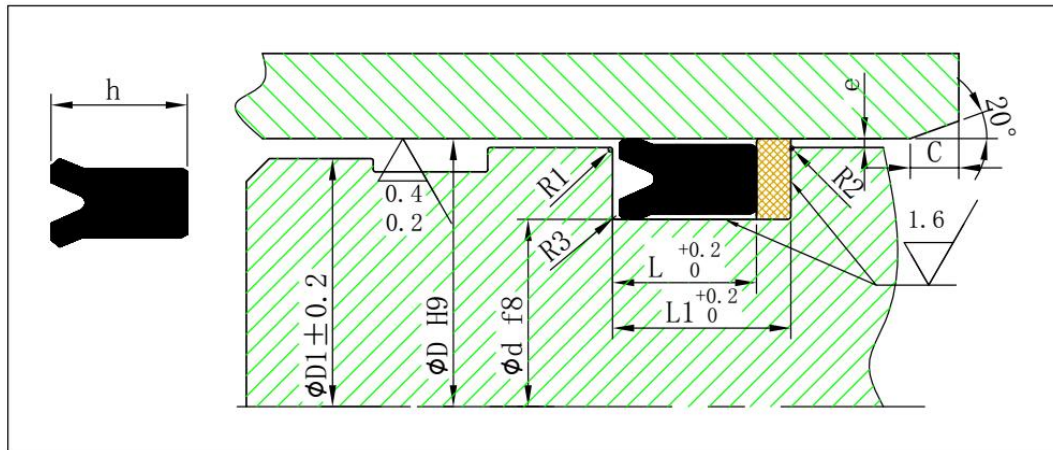
2. Standard Material

NBR / FKM.

3. Working conditions

Working Condition				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
12 ~ 500mm	0 ~ 30MPa	-25 ~ 100(NBR), -10 ~ 150(FKM)	0.5m/s	Hydraulic oil

UH



4. Related Dimensions:

$R1=0.2 \sim 0.5$; $R2=0.1 \sim 0.2$; $R3=0.2 \sim 0.3$; The specific values are selected according to the section size of the seal. The remaining values are referred to Installation Dimensions table: L stands for the Groove Width without back-up ring and L1 stands for the groove Width with back-up ring.

5. Marking method:

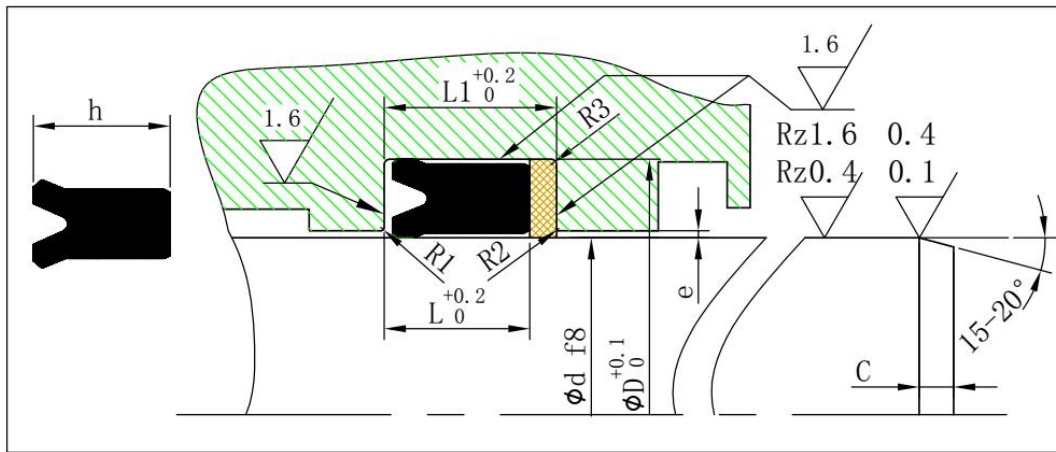
Mark with the dimension of installation groove as below:

For example, the first seal in Installation Dimensions table can be marked as UH6.3×16.3×8.5

6. Installation Dimensions

d	D	h	L	L1	D1
6.3	16.3	7.5	8.5	10.5	15.3
6.3	16.3	8	9	11	15.3
7.1	17.1	7.5	8.5	10.5	16.1
7.1	17.1	8	9	11	16.1
8	18	7.5	8.5	10.5	17
8	18	8	9	11	17
9	19	7.5	8.5	10.5	18
9	19	8	9	11	18
10	20	7.5	8.5	10.5	18
10	20	8	9	11	19
11.2	21.2	7.5	8.5	10.5	20.2
11.2	21.2	8	9	11	20.2
12	25	8	9	11	24
12.5	22.5	7.5	8.5	10.5	21.5
12.5	22.5	8	9	11	21.5
14	24	7.5	8.5	10.5	23
14	24	8	9	11	23

d	D	h	L	L1	D1
15	25	8	9	11	24
15	28	10	11	13	27
16	26	7.5	8.5	10.5	25
16	26	8	9	11	25
16	32	10	11	13	31
18	28	8	9	11	27
18	31	10	11	13	30
18	33	10	11	13	32
18.5	31.5	10	11	13	30.5
20	30	8	9	11	29
20	33	10	11	13	32
20	35	10	11	13	34
21.5	31.5	8	9	11	30.5
22	35	10	11	13	34
22.4	32.4	8	9	11	31.4
22.4	35.4	10	11	13	34.4
25	35	8	9	11	34



Installation Dimensions

d	D	h	L	L1	D1
25	38	10	11	13	37
25	40	10	10	13	39
25	45	12	13	15	44
25.5	35.5	8	9	12	34.5
27	40	10	11	14	39
28	40	10	11	14	39
28	41	10	11	14	40
28	43	10	11	14	42
30	43	10	11	14	42
30	45	10	11	14	44
31.5	44.5	10	11	14	43.5
31.5	46.5	10	11	14	45.5
32	45	10	11	14	44
32	46	10	11	14	45
32	48	10	11	14	47
34	50	12	13	16	49
35	50	10	11	14	49
35	50	12	13	16	49
35	51	12	13	16	50
35.5	50.5	10	11	14	49.5
35.5	51.5	12	13	16	50.5
38	52	10	11	14	51
40	55	10	11	14	54
40	56	10	11	14	55
40	56	12	13	16	55
40	60	12	13	16	59
41	56	10	11	14	55
45	60	10	11	14	59
45	60	12	13	16	59
45	61	12	13	16	60

d	D	h	L	L1	D1
47	63	12	13	16	62
48	63	10	11	14	62
50	65	10	11	14	64
50	66	12	13	16	65
50	70	12	13	16	69
51	71	12	13	16	70
53	69	12	13	16	68
53	73	12	13	16	72
55	71	12	13	16	70
55	75	12	13	16	74
55	80	15	16	19	79
56	72	12	13	16	71
56	76	12	13	16	75
60	76	12	13	16	75
60	80	12	13	16	79
63	79	12	13	16	78
63	83	12	13	16	82
64	80	12	13	16	79
65	81	12	13	16	80
65	85	12	13	16	84
67	87	12	13	16	86
67	87	15	16	19	86
70	90	12	13	16	89
70	90	15	16	19	89
71	91	12	13	16	90
71	91	15	16	19	90
75	95	12	13	16	94
75	95	15	16	19	94
80	100	12	13	16	99
80	100	15	16	19	99

UH



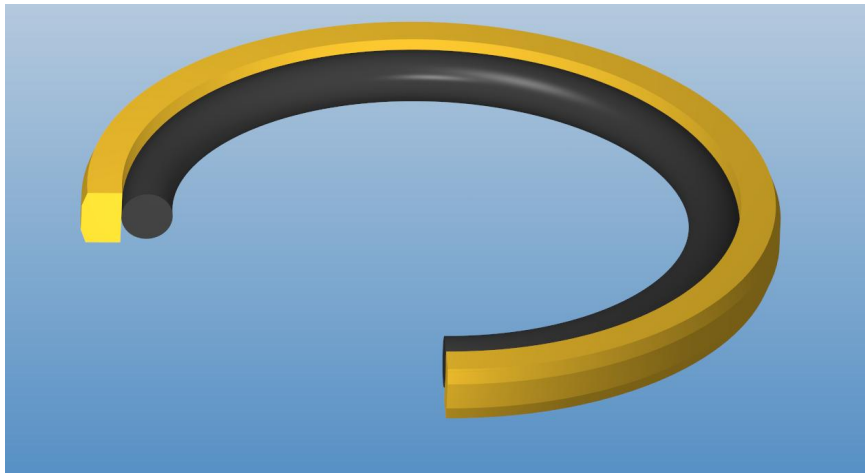
Installation Dimensions

d	D	h	L	L1	D1
85	105	15	16	19	104
90	110	12	13	16	109
90	110	15	16	19	109
92	112	12	13	16	111
92	112	15	16	19	111
95	115	12	13	16	114
95	115	15	16	19	114
95	120	15	16	19	118
100	120	12	13	16	118
100	120	15	16	19	118
100	125	15	16	19	123
105	125	15	16	19	123
106	126	15	16	19	124
110	130	15	16	19	128
112	132	15	16	19	130
115	135	15	16	19	133
118	138	15	16	19	136
120	140	15	16	19	138
125	145	15	16	19	143
125	150	19	20	23	148
130	150	15	16	19	148
130	155	19	20	23	153
132	152	15	16	19	150
132	157	19	20	23	155
135	155	15	16	19	153
135	160	15.7	17	20	158
135	160	19	20	23	158
140	160	15	16	19	158
140	165	19	20	23	163
145	165	15	16	19	163
145	170	19	20	23	168
150	170	15	16	19	168
150	175	19	20	23	173
155	180	15	16	20	178
155	180	15.7	17	21	178
155	180	19	20	24	178
160	185	15	16	20	183
160	185	19	20	24	183
165	190	15	16	20	188
165	190	19	20	24	188
170	195	15	16	20	193
170	195	19	20	24	193
175	200	15	16	20	198
175	200	15.7	17	21	198

d	D	h	L	L1	D1
175	200	19	20	24	198
180	205	15	16	20	203
180	205	19	20	24	203
185	210	15	16	20	208
190	215	15	16	20	213
190	215	19	20	24	213
199	224	15	16	20	222
199	224	15.7	17	21	222
199	224	19	20	24	222
200	225	15	16	20	223
200	225	19	20	24	223
210	235	18	19	23	233
212	237	19	20	24	235
215	240	19	20	24	238
224	249	19	20	24	247
225	250	18	19	23	248
225	250	19	20	24	248
236	261	19	20	24	259
250	275	19	20	24	273
255	280	19	20	24	278
265	297	24	26	30	295
270	300	18	19	23	298
270	300	24	26	30	298
280	310	22	24	28	308
280	312	24	26	30	310
283	315	24	26	30	313
290	320	18	19	23	318
290	320	22	24	28	318
300	332	24	26	30	330
310	340	18	19	23	338
310	340	22	24	28	338
315	347	24	26	30	345
320	340	12	13	17	338
320	350	22	24	28	348
323	355	24	26	30	353
330	355	16	17	21	353
330	356	20	22	26	354
330	360	22	24	28	358
335	355	14	15	19	353
335	367	24	26	30	365
340	370	22	24	28	368
345	365	14	15	19	363
348	380	24	26	30	378
350	370	14	15	19	368

C

Piston Seals



1. Application and properties

Suitable for two-way piston seal, especially for fast response cylinders in control oil cylinders, servo oil cylinders, machine tools, and construction machinery.

It has a low friction coefficient, wear resistance, and a long service life. It can work with or without lubrication and can be used for non-oil lubrication cylinder seals. The adaptability to working media and working temperature range can be changed by replacing the material of the O-ring. Can be used in special working conditions such as extremely high speed, extremely low speed, micro-stroke, etc.

Suitable for integrated piston, and the installation groove is small.

Complies with the standards of GB/T 15242.1-94 and GB/T 15242.3-94.

Good extrusion resistance and larger installation clearances than general seals.

Different cross-section products can be selected according to the actual working pressure value. Generally, the larger the working pressure, the larger the cross-section product should be selected.

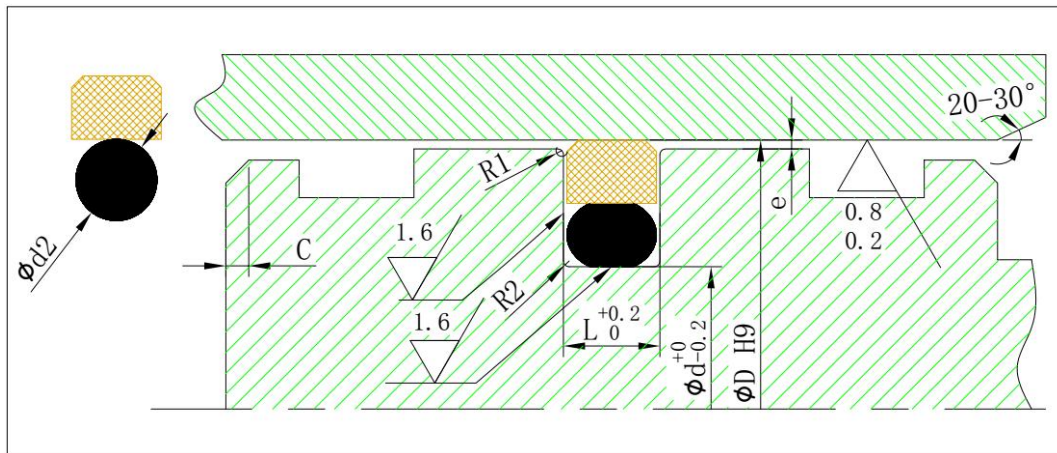
2. Standard material

Sealing ring: filled PTFE

O-Ring: NBR / FKM

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
8 ~ 2000mm	0 ~ 40MPa	-30 ~ 100(NBR) -20 ~ 160(FKM)	1.5m/s	Hydraulic oil, flame retardant liquid, water



4. Related Dimensions

The maximum values of R1 are shown in the table below. $R2=0.5 \sim 1$; $C=(0.5 \sim 1.0)L$; The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

Bore Dia. D			Groove Dia.	Groove Width	Radius	Radial Clearance e			O-Ring Cross-Section
Standard Application	Light Application	Heavy Duty Application	d	L	R1	10 MPa	20 MPa	40 MPa	d2
8 ~ 14.9	15 ~ 39.9	—	D-4.9	2.2	0.2	0.3	0.20	0.15	1.78
15 ~ 39.9	40 ~ 79.9	—	D-7.5	3.2	0.4	0.4	0.25	0.15	2.62
40 ~ 79.9	80 ~ 132.9	15 ~ 39.9	D-11	4.2	0.5	0.4	0.25	0.20	3.53
80 ~ 132.9	133 ~ 329.9	40 ~ 79.9	D-15.5	6.3	0.6	0.5	0.30	0.20	5.33
133 ~ 329.9	330 ~ 669.9	80 ~ 132.9	D-21	8.1	1.0	0.6	0.35	0.25	6.99
330 ~ 669.9	670 ~ 999.9	133 ~ 329.9	D-24.5	8.1	1.0	0.6	0.35	0.25	6.99
670 ~ 999.9	—	330 ~ 669.9	D-28	9.5	2.0	0.7	0.50	0.30	8.40
>1000			D-38	13.8	2.5	1.0	0.7	0.30	12.00

5. Marking method

Mark it with the dimensions of Installation groove:

For example, the standard $\phi 100$ GSF piston seal is marked as GSF100×84.5×6.3



6. Installation Dimensions

Bore Dia	Groove Dia.	Groove width	Part No.	O-Ring Dimensions
D	d	L		
8	3.1	2.2	GSF0080	2.90×1.78
10	5.1	2.2	GSF0100	4.80×1.78
12	7.1	2.2	GSF0120	6.70×1.78
14	9.1	2.2	GSF0140	8.75×1.78
15	10.1	2.2	GSF0150L	7.59×2.62
15	7.5	3.2	GSF0150	8.75×1.78
16	11.1	2.2	GSF0160L	10.82×1.78
16	8.5	3.2	GSF0160	7.59×2.62
18	13.1	2.2	GSF0180L	12.42×1.78
18	10.5	3.2	GSF0180	9.19×2.62
20	15.1	2.2	GSF0200L	14.00×1.78
20	12.5	3.2	GSF0200	12.37×2.62
24	19.1	2.2	GSF0240L	18.77×1.78
24	16.5	3.2	GSF0240	15.54×2.62
25	17.5	3.2	GSF0250	17.12×2.62
25	14	4.2	GSF0250H	13.87×3.53
28	20.5	3.2	GSF0280	20.29×2.62
28	17	4.2	GSF0280H	15.47×3.53
30	22.5	3.2	GSF0300	21.89×2.62
30	19	4.2	GSF0300H	26.70×1.78
32	24.5	3.2	GSF0320	23.47×2.62
32	21	4.2	GSF0320H	20.22×3.53
35	27.5	3.2	GSF0350	26.64×2.62
35	24	4.2	GSF0350H	23.40×3.53
36	28.5	3.2	GSF0360	28.24×2.62
36	25	4.2	GSF0360H	23.39×3.53
38	30.5	3.2	GSF0380	29.82×2.62
38	27	4.2	GSF0380H	25.86×3.53
40	32.5	3.2	GSF0400L	31.42×2.62
40	29	4.2	GSF0400	28.17×3.53
45	37.5	3.2	GSF0450L	36.5×2.62
45	34	4.2	GSF0450	32.92×3.53
48	40.5	3.2	GSF0480L	36.09×3.53
48	37	4.2	GSF0480	36.09×3.53
50	39	4.2	GSF0500	37.70×3.53
50	34.5	6.3	GSF0500H	32.69×5.33
52	41	4.2	GSF0520	40.87×3.53

Bore Dia	Groove Dia.	Groove width	Part No.	O-Ring Dimensions
D	d	L		
52	36.5	6.3	GSF0520H	35.00×5.33
55	44	4.2	GSF0550	44.04×3.53
55	39.5	6.3	GSF0550H	38.00×5.33
56	45	4.2	GSF0560	44.04×3.53
56	40.5	6.3	GSF0560H	39.00×5.33
60	49	4.2	GSF0600	47.22×3.53
60	44.5	6.3	GSF0600H	42.50×5.33
63	52	4.2	GSF0630	50.39×3.53
63	47.5	6.3	GSF0630H	46.00×5.33
64	53	4.2	GSF0640	51.50×3.53
64	48.5	6.3	GSF0640H	46.99×5.33
65	54	4.2	GSF0650	53.57×3.53
65	49.5	6.3	GSF0650H	48.00×5.33
70	59	4.2	GSF0700	56.74×3.53
70	54.5	6.3	GSF0700H	53.34×5.33
75	64	4.2	GSF0750	63.09×3.53
75	59.5	6.3	GSF0750H	56.52×5.33
80	69	4.2	GSF0800L	66.27×3.53
80	64.5	6.3	GSF0800	62.87×5.33
85	74	4.2	GSF0850L	72.62×3.53
85	69.5	6.3	GSF0850	69.22×5.33
90	79	4.2	GSF0900L	78.97×3.53
90	74.5	6.3	GSF0900	72.39×5.33
95	84	4.2	GSF0950L	82.14×3.53
95	79.5	6.3	GSF0950	78.74×5.33
100	89	4.2	GSF1000L	88.49×3.53
100	84.5	6.3	GSF1000	81.92×5.33
105	94	4.2	GSF1050L	91.67×3.53
105	89.5	6.3	GSF1050	88.27×5.33
110	99	4.2	GSF1100L	98.02×3.53
110	94.5	6.3	GSF1100	91.44×5.33
115	99.5	6.3	GSF1150	97.79×5.33
120	104.5	6.3	GSF1200	100.97×5.33
125	109.5	6.3	GSF1250	107.32×5.33
125	104	8.1	GSF1250H	103.00×6.99
130	114.5	6.3	GSF1300	113.67×5.33
130	109	8.1	GSF1300H	108.00×6.99



Installation Dimensions

Bore Dia	Groove Dia.	Groove width	Part No.	O-Ring Dimensions
D	d	L		
135	119.5	6.3	GSF1350L	118.00×5.33
135	114	8.1	GSF1350	113.67×6.99
140	124.5	6.3	GSF1400L	123.19×5.33
140	119	8.1	GSF1400	116.84×6.99
145	124	8.1	GSF1450	123.19×6.99
150	129	8.1	GSF1500	126.37×6.99
155	134	8.1	GSF1550	132.72×6.99
160	139	8.1	GSF1600	135.89×6.99
165	144	8.1	GSF1650	142.24×6.99
170	149	8.1	GSF1700	145.42×6.99
175	154	8.1	GSF1750	151.77×6.99
180	159	8.1	GSF1800	158.12×6.99
190	169	8.1	GSF1900	164.47×6.99
200	179	8.1	GSF2000	177.17×6.99
210	189	8.1	GSF2100	183.52×6.99
220	199	8.1	GSF2200	196.22×6.99
230	209	8.1	GSF2300	208.90×6.99
240	219	8.1	GSF2400	215.27×6.99
250	229	8.1	GSF2500	227.97×6.99
260	239	8.1	GSF2600	240.67×6.99
270	249	8.1	GSF2700	240.67×6.99
275	254	8.1	GSF2750	253.37×6.99
280	259	8.1	GSF2800	253.37×6.99
290	269	8.1	GSF2900	266.07×6.99
300	279	8.1	GSF3000	278.77×6.99
310	289	8.1	GSF3100	278.77×6.99
320	299	8.1	GSF3200	291.47×6.99
330	305.5	8.1	GSF3300	304.17×6.99
340	315.5	8.1	GSF3400	316.87×6.99
350	325.5	8.1	GSF3500	316.87×6.99
360	335.5	8.1	GSF3600	329.57×6.99
370	345.5	8.1	GSF3700	342.27×6.99
380	355.5	8.1	GSF3800	354.97×6.99
390	365.5	8.1	GSF3900	365.00×6.99
400	375.5	8.1	GSF4000	367.67×6.99

Bore Dia	Groove Dia.	Groove width	Part No.	O-Ring Dimensions
D	d	L		
410	385.5	8.1	GSF4100	387.00×6.99
420	395.5	8.1	GSF4200	393.07×6.99
430	405.5	8.1	GSF4300	405.26×6.99
440	415.5	8.1	GSF4400	405.26×6.99
450	425.5	8.1	GSF4500	417.96×6.99
460	435.5	8.1	GSF4600	430.66×6.99
470	445.5	8.1	GSF4700	443.36×6.99
480	455.5	8.1	GSF4800	456.06×6.99
490	465.5	8.1	GSF4900	462.00×6.99
500	475.5	8.1	GSF5000	468.76×6.99
510	485.5	8.1	GSF5100	480.00×6.99
520	495.5	8.1	GSF5200	490.00×6.99
530	505.5	8.1	GSF5300	498.00×6.99
540	515.5	8.1	GSF5400	505.00×6.99
550	525.5	8.1	GSF5500	515.00×6.99
560	535.5	8.1	GSF5600	523.00×6.99
570	545.5	8.1	GSF5700	533.00×6.99
580	555.5	8.1	GSF5800	542.00×6.99
600	575.5	8.1	GSF6000	557.66×6.99
610	585.5	8.1	GSF6100	567.00×6.99
620	595.5	8.1	GSF6200	576.00×6.99
630	605.5	8.1	GSF6300	586.00×6.99
640	615.5	8.1	GSF6400	608.08×6.99
650	625.5	8.1	GSF6500	618.00×6.99
660	635.5	8.1	GSF6600	633.48×6.99
670	642	9.5	GSF6700	630.00×8.40
680	652	9.5	GSF6800	650.00×8.40
700	672	9.5	GSF7000	670.00×8.40
750	722	9.5	GSF7500	720.00×8.40
780	752	9.5	GSF7800	750.00×8.40
800	772	9.5	GSF8000	770.00×8.40
850	822	9.5	GSF8500	820.00×8.40
900	872	9.5	GSF9000	870.00×8.40
950	922	9.5	GSF9500	920.00×8.40
1000	962	13.8	GSF10000	960.00×12.0



1. Application and properties

Suitable for one-way and reciprocating piston seal, especially for fast response cylinders in control cylinders, servo cylinders, machine tools, and construction machinery.

Low friction coefficient, wear-resistant, long service life. Can work with or without lubrication, and can be used for oil-free lubrication cylinder sealing. The adaptability to working medium and working temperature range can be changed by replacing the O-ring material. Can be used in special working conditions such as extremely high speed, extremely low speed, and micro-stroke.

Suitable for integral pistons and the installation groove is small.

Complies with GB/T 15242.1-94 and GB/T 15242.3-94 standards.

Good extrusion resistance and larger installation clearances than general sealing components.

Different cross-sectional products can be selected according to the actual working pressure value. In principle, the larger the working pressure, the larger the cross-sectional product should be selected

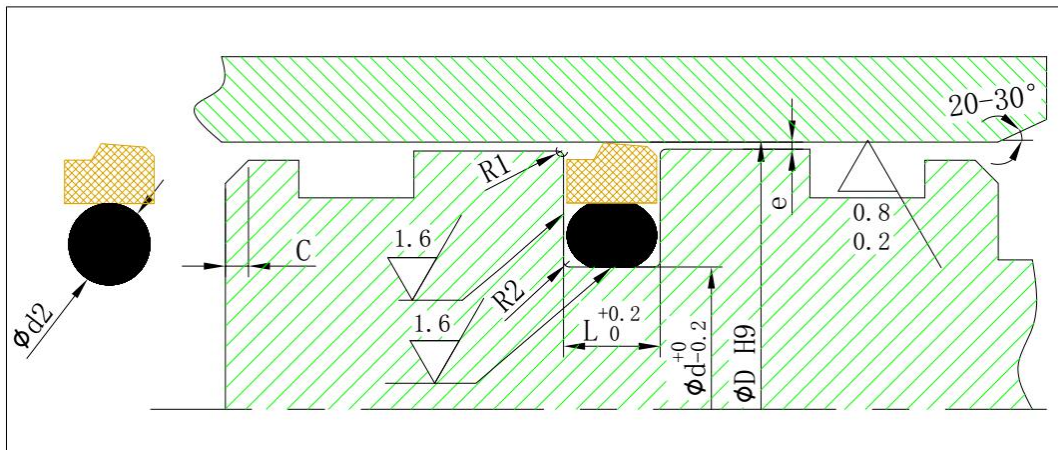
2. Standard material

Sealing ring: filled PTFE

O-Ring: NBR / FKM

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
9 ~ 2000mm	0 ~ 30MPa	-30 ~ 100(NBR) -20 ~ 160(FKM)	1.5m/s	Hydraulic oil, flame retardant liquid, water



4. Related Dimensions:

The maximum values of R1 are shown in the table below. $R2=0.5 \sim 1$; $C=(0.5 \sim 1.0)L$; The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

Bore Dia. D			Groove Dia.	Groove Width	Radius	Radial Clearance e			O-Ring Cross-Section
Standard Application	Light Application	Heavy Duty Application	d	L	R1	10 MPa	20 MPa	40 MPa	d2
8 ~ 14.9	15 ~ 39.9	—	D-4.9	2.2	0.2	0.3	0.20	0.15	1.78
15 ~ 39.9	40 ~ 79.9	—	D-7.5	3.2	0.3	0.4	0.25	0.15	2.62
40 ~ 79.9	80 ~ 132.9	15 ~ 39.9	D-11	4.2	0.5	0.4	0.25	0.20	3.53
80 ~ 132.9	133 ~ 329.9	40 ~ 79.9	D-15.5	6.3	0.6	0.5	0.30	0.20	5.33
133 ~ 329.9	330 ~ 669.9	80 ~ 132.9	D-21	8.1	1.0	0.6	0.35	0.25	6.99
330 ~ 669.9	670 ~ 999.9	133 ~ 329.9	D-24.5	8.1	1.0	0.6	0.35	0.25	6.99
670 ~ 999.9	—	330 ~ 669.9	D-28	9.5	2.0	0.7	0.50	0.30	8.40
>1000			D-38	13.8	2.5	1.0	0.70	0.30	12.00

5. Marking method

Mark it with the dimensions of Installation groove.

For example, the standard $\phi 100$ GSD piston seal is marked as GSD100×84.9×6.3

GSD



6. Installation Dimensions

Bore Dia	Groove Dia.	Groove width	Part No.	O-Ring Dimensions
D	d	L		
9	4.1	2.2	GSD0080	3.68×1.78
10	5.1	2.2	GSD0100	4.80×1.78
12	7.1	2.2	GSD0120	6.70×1.78
15	10.1	2.2	GSD0150	9.25×1.78
18	10.7	3.2	GSD0180	9.19×2.62
20	15.1	2.2	GSD0200L	14.0×1.78
20	12.7	3.2	GSD0200	12.37×2.62
22	14.7	3.2	GSD0220	13.94×2.62
25	17.7	3.2	GSD0250	17.12×2.62
27	16.3	4.2	GSD0270	15.47×3.53
28	17.3	4.2	GSD0280	16.4×3.53
30	19.3	4.2	GSD0300	18.66×3.53
32	24.7	3.2	GSD0320L	23.47×2.62
32	21.3	4.2	GSD0320	20.22×3.53
35	24.3	4.2	GSD0350	23.40×3.53
36	25.3	4.2	GSD0360	24.00×3.53
38	27.3	4.2	GSD0380	26.00×3.53
40	32.7	3.2	GSD0400L	31.42×2.62
40	29.3	4.2	GSD0400	28.17×3.53
45	34.3	4.2	GSD0450	32.92×3.53
48	37.3	4.2	GSD0480	36.09×3.53
50	39.3	4.2	GSD0500	37.70×3.53
50	34.9	6.3	GSD0500H	32.69×5.33
52	41.3	4.2	GSD0520	40.87×3.53
55	44.3	4.2	GSD0550	44.04×3.53
60	44.9	6.3	GSD0600	43.82×5.33
63	52.3	4.2	GSD0630L	50.39×3.53
63	47.9	6.3	GSD0630	46.99×5.33
64	48.9	6.3	GSD0640	46.99×5.33
65	49.9	6.3	GSD0650	46.99×5.33
70	59.3	4.2	GSD0700L	56.74×3.53
70	54.9	6.3	GSD0700	53.34×5.33
75	59.9	6.3	GSD0750	56.52×5.33
80	64.9	6.3	GSD0800	62.87×5.33
80	59.5	8.1	GSD0800H	58.00×6.99
85	69.9	6.3	GSD0850	69.22×5.33
90	74.9	6.3	GSD0900	72.39×5.33
90	69.5	8.1	GSD0900H	68.00×6.99

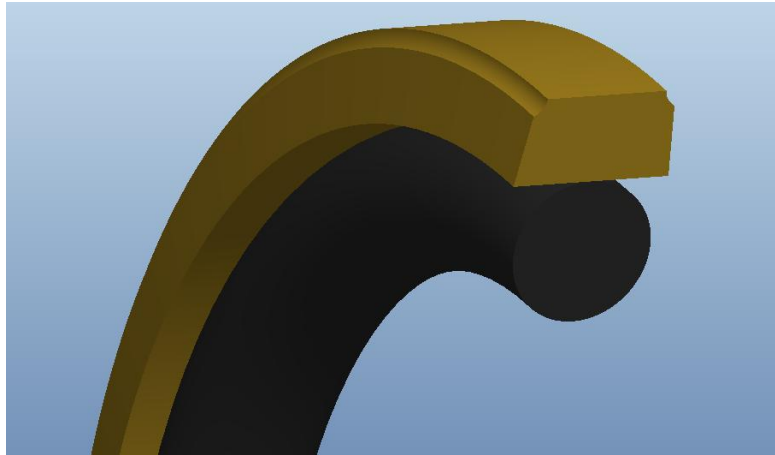
Bore Dia	Groove Dia.	Groove width	Part No.	O-Ring Dimensions
D	d	L		
95	79.9	6.3	GSD0950	78.74×5.33
95	74.5	8.1	GSD0950H	73.00×6.99
100	84.9	6.3	GSD1000	81.92×5.33
100	79.5	8.1	GSD1000H	78.00×6.99
110	94.9	6.3	GSD1100	91.44×5.33
120	104.9	6.3	GSD1200	104.14×5.33
125	109.9	6.3	GSD1250	107.32×5.33
125	104.5	8.1	GSD1250H	103.00×6.99
130	114.9	6.3	GSD1300	113.67×5.33
135	119.9	6.3	GSD1350	113.67×6.99
140	124.9	6.3	GSD1400	116.84×6.99
145	129.9	6.3	GSD1450	123.19×6.99
150	134.9	6.3	GSD1500	126.37×6.99
155	139.9	6.3	GSD1550	135.89×5.33
160	144.9	6.3	GSD1600	142.24×5.33
160	139.5	8.1	GSD1600H	135.89×6.99
165	149.9	6.3	GSD1650	148.49×5.33
170	154.9	6.3	GSD1700	145.42×6.99
175	159.9	6.3	GSD1750	158.12×5.33
180	164.9	6.3	GSD1800	164.47×5.33
180	159.5	8.1	GSD1800H	158.12×6.99
190	174.9	6.3	GSD1900	170.82×5.33
190	169.5	8.1	GSD1900H	164.47×6.99
200	184.9	6.3	GSD2000L	183.52×5.33
200	179.5	8.1	GSD2000	177.17×6.99
210	189.5	8.1	GSD2100	183.52×6.99
220	204.9	6.3	GSD2200L	202.57×5.33
220	199.5	8.1	GSD2200	196.22×6.99
230	209.5	8.1	GSD2300	208.92×6.99
240	219.5	8.1	GSD2400	215.27×6.99
250	229.5	8.1	GSD2500	227.97×6.99
250	226	8.1	GSD2500H	227.97×6.99
256	232	8.1	GSD2560	227.97×6.99
260	236	8.1	GSD2600	227.97×6.99
270	246	8.1	GSD2700	240.67×6.99
280	256	8.1	GSD2800	253.37×6.99
290	266	8.1	GSD2900	263.00×6.99
300	276	8.1	GSD3000	266.07×6.99



Installation Dimensions

Bore Dia D	Groove Dia. d	Groove width L	Part No.	O-Ring Dimensions
310	286	8.1	GSD3100	278.77×6.99
320	299.5	8.1	GSD3200L	291.47×6.99
320	296	8.1	GSD3200	291.47×6.99
330	306	8.1	GSD3300	304.17×6.99
340	316	8.1	GSD3400	316.87×6.99
350	326	8.1	GSD3500	316.87×6.99
360	336	8.1	GSD3600	329.57×6.99
370	346	8.1	GSD3700	342.27×6.99
380	356	8.1	GSD3800	354.97×6.99
390	366	8.1	GSD3900	365.00×6.99
400	376	8.1	GSD4000	367.67×6.99
410	386	8.1	GSD4100	385.00×6.99
420	396	8.1	GSD4200	393.07×6.99
430	406	8.1	GSD4300	405.25×6.99
440	416	8.1	GSD4400	405.25×6.99
450	426	8.1	GSD4500	417.95×6.99
460	436	8.1	GSD4600	430.00×6.99
470	446	8.1	GSD4700	445.00×6.99
480	456	8.1	GSD4800	456.06×6.99
490	466	8.1	GSD4900	465.00×6.99
500	476	8.1	GSD5000	468.76×6.99
510	486	8.1	GSD5100	478.00×6.99
520	496	8.1	GSD5200	494.15×6.99
530	506	8.1	GSD5300	500.00×6.99
540	516	8.1	GSD5400	506.85×6.99
550	526	8.1	GSD5500	516.00×6.99
560	536	8.1	GSD5600	526.00×6.99

Bore Dia D	Groove Dia. d	Groove width L	Part No.	O-Ring Dimensions
570	546	8.1	GSD5700	535.00×6.99
580	556	8.1	GSD5800	545.00×6.99
590	566	8.1	GSD5900	554.00×6.99
600	576	8.1	GSD6000	557.65×6.99
610	586	8.1	GSD6100	568.00×6.99
620	596	8.1	GSD6200	578.00×6.99
630	606	8.1	GSD6300	590.00×6.99
640	616	8.1	GSD6400	600.00×6.99
650	626	8.1	GSD6500	608.08×6.99
660	636	8.1	GSD6600	618.00×6.99
670	642.7	9.5	GSD6700	640.00×8.40
680	652.7	9.5	GSD6800	650.00×8.40
690	662.7	9.5	GSD6900	660.00×8.40
700	672.7	9.5	GSD7000	670.00×8.40
710	682.7	9.5	GSD7100	680.00×8.40
720	692.7	9.5	GSD7200	690.00×8.40
730	702.7	9.5	GSD7300	700.00×8.40
740	712.7	9.5	GSD7400	710.00×8.40
750	722.7	9.5	GSD7500	720.00×8.40
760	732.7	9.5	GSD7600	730.00×8.40
770	742.7	9.5	GSD7700	740.00×8.40
780	752.7	9.5	GSD7800	750.00×8.40
790	762.7	9.5	GSD7900	760.00×8.40
800	772.7	9.5	GSD8000	770.00×8.40
900	872.7	9.5	GSD9000	870.00×8.40
920	892.7	9.5	GSD9200	890.00×8.40
1000	972.7	9.5	GSD10000	970.00×8.40



1. Application and properties

Suitable for two-way and reciprocating piston seal, especially for fast-response cylinders in control cylinders, servo cylinders, machine tools and construction machinery.

It has a low friction coefficient, wear resistance, and a long service life. It can work with or without lubrication and can be used for non-oil lubrication cylinder seals. The adaptability to working media and working temperature range can be changed by replacing the material of the O-ring. Can be used in special working conditions such as extremely high speed, extremely low speed, micro-stroke, etc.

Suitable for integrated pistons and the installation groove is small, which is conducive to design cylinder size

Complies with the standards of GB/T 15242.1-94 and GB/T 15242.3-94.

Good extrusion resistance and can adapt to larger installation clearances.

Different cross-section products can be selected according to the actual working pressure value. Generally, the larger the working pressure, the larger the cross-section product should be selected.

This seal is particularly suitable for frequent and rapid directional changes in hydraulic cylinder applications

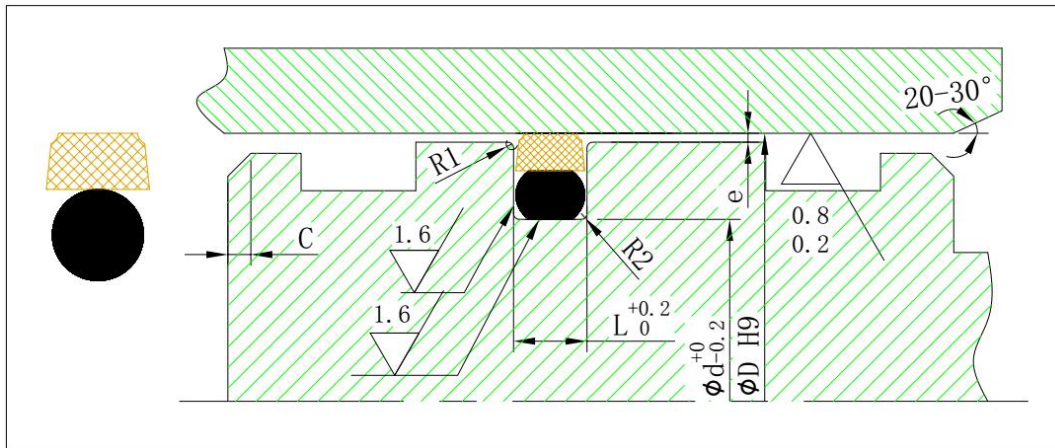
2. Standard material

Sealing ring: filled PTFE

O-Ring: NBR / FKM

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
8 ~ 2000mm	0 ~ 40MPa	-30 ~ 100(NBR) -20 ~ 160(FKM)	1.5m/s	Hydraulic oil, flame retardant liquid, water



4. Related Dimensions

The maximum values of R1 are shown in the table below. $R2=0.5 \sim 1$; $C=(0.5 \sim 1.0)L$; The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

Bore Dia. D			Groove Dia.	Groove Width	Radius	Radial Clearance e			O-Ring Cross-Section
Standard Application	Light Application	Heavy Duty Application	d	L	R1	10 MPa	20 MPa	40 MPa	d2
8 ~ 14.9	15 ~ 39.9	—	D-4.9	2.2	0.2	0.3	0.20	0.15	1.78
15 ~ 39.9	40 ~ 79.9	—	D-7.5	3.2	0.3	0.4	0.25	0.15	2.62
40 ~ 79.9	80 ~ 132.9	15 ~ 39.9	D-11	4.2	0.5	0.4	0.25	0.20	3.53
80 ~ 132.9	133 ~ 329.9	40 ~ 79.9	D-15.5	6.3	0.6	0.5	0.30	0.20	5.33
133 ~ 329.9	330 ~ 669.9	80 ~ 132.9	D-21	8.1	1.0	0.6	0.35	0.25	6.99
330 ~ 669.9	670 ~ 999.9	133 ~ 329.9	D-24.5	8.1	1.0	0.6	0.35	0.25	6.99
670 ~ 999.9	—	330 ~ 669.9	D-28	9.5	2.0	0.7	0.50	0.30	8.40
>1000			D-38	13.8	2.5	1.0	0.70	0.30	12.00

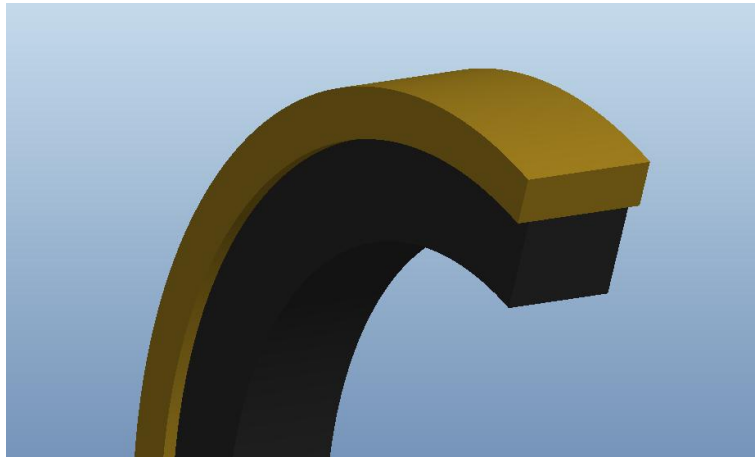
5. Marking method

Mark it with the dimensions of Installation groove

For example, the standard $\phi 100$ DPT piston seal is marked as DPT100×84.5×6.3

6. Installation Dimensions

Refer to GSF Installation Dimension table



1. Application and properties

Suitable for two-way piston seal, especially for heavy-duty quick response hydraulic cylinders and the maximum working pressure is about 40MPa.

It has a small friction coefficient, wear resistance, and long service life. The adaptability and working temperature range of the working medium can be changed by replacing the material of the square ring.

It can be used in special working conditions such as extremely high speed and extremely low speed.

Suitable for integrated pistons, and the installation groove is small, which is conducive to design cylinder size.

Compliant with GB/T 15242.1-94 and GB/T 15242.3-94 standards.

Good extrusion resistance and a larger installation clearance than general sealing components.

2. Standard material

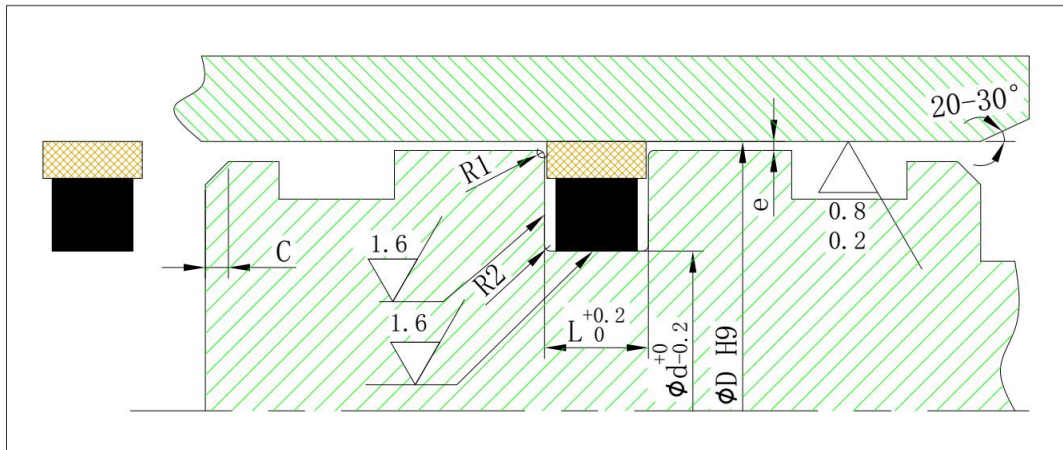
Sealing ring: filled PTFE

O-Ring: NBR / FKM

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3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
9 ~ 2000mm	0 ~ 40MPa	-30 ~ 100(NBR) -20 ~ 160(FKM)	1.5m/s	Hydraulic oil, flame retardant liquid, water



4. Related Dimensions

$R1=0.2 \sim 0.5$; $R2=0.5 \sim 1$; $e=0.1 \sim 0.8$; $C=(0.5 \sim 1.0)L$; The specific values are selected according to the section size of the seal.

5. Marking method

Mark it with the dimensions of Installation groove

For example, the standard $\phi 100$ SPG seal is marked as SPG100 $\times$ 85 $\times$ 7.5



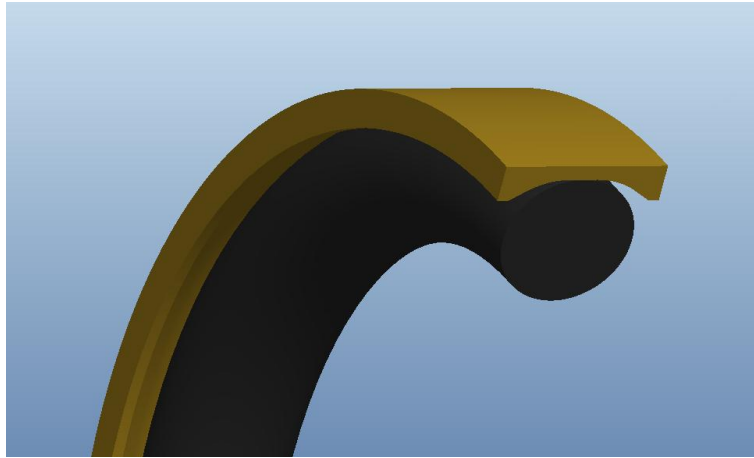
SPG

6. Installation Dimensions

Installation Dimensions			Part No.
D	d	L	
30	20.5	4.5	SPG0300
31.5	22	4.5	SPG0315
32	22.5	4.5	SPG0320
35	25.5	4.5	SPG0350
35.5	26	4.5	SPG0355
40	30	4.5	SPG0400
45	35	4.5	SPG0450
50	40	4.5	SPG0500
55	45	4.5	SPG0550
56	46	4.5	SPG0560
60	50	4.5	SPG0600
63	48	7.5	SPG0630
65	50	7.5	SPG0650
69	54	7.5	SPG0690
70	55	7.5	SPG0700
71	56	7.5	SPG0710
75	60	7.5	SPG0750
80	65	7.5	SPG0800
85	70	7.5	SPG0850
90	75	7.5	SPG0900
95	80	7.5	SPG0950
100	85	7.5	SPG1000
105	90	7.5	SPG1050
108	92	7.5	SPG1080
110	94	7.5	SPG1100
112	96	7.5	SPG1120
120	104	7.5	SPG1200
125	109	7.5	SPG1250
130	114	7.5	SPG1300
135	119	7.5	SPG1350
140	124	7.5	SPG1400
145	129	7.5	SPG1450
150	134	7.5	SPG1500

Installation Dimensions			Part No.
D	d	L	
155	139	7.5	SPG1550
160	144	7.5	SPG1600
170	148	11	SPG1700
180	158	11	SPG1800
190	168	11	SPG1900
200	178	11	SPG2000
210	188	11	SPG2100
215	193	11	SPG2150
220	198	11	SPG2200
230	208	11	SPG2300
240	218	11	SPG2400
250	228	11	SPG2500
260	236	12	SPG2600
270	246	12	SPG2700
280	256	12	SPG2800
290	266	12	SPG2900
300	276	12	SPG3000
310	286	12	SPG3100
320	296	12	SPG3200
330	308	10	SPG3300
360	336	12	SPG3600
400	376	12	SPG4000
485	455	15	SPG4850
500	470	15	SPG5000
550	515	17.5	SPG5500
600	570	15	SPG6000
650	620	15	SPG6500
720	690	15	SPG7200
800	785	13	SPG8000
900	870	25	SPG9000
930	890	20	SPG9300
950	925	18	SPG9500
1000	960	20	SPG10000

D



1. Application and properties

Installed in the O-ring groove, suitable for two-way piston seal and static seal, especially recommended for light load and small diameter hydraulic cylinder.

It has low friction coefficient, wear resistance, and can work with or without lubrication, and can be used for oil-free lubrication cylinder sealing. It can adapt to a wide range of working media and working temperature range by changing the material of O-ring. It can be used for special working conditions such as extremely high speed, extremely low speed, micro-stroke, etc.

Suitable for integral piston and the installation groove is small, which is conducive to design cylinder size.

Compliant with GB/T 15242.1-94 and GB/T 15242.3-94 standards.

It has excellent sealing performance under various pressures, and almost no leakage.

According to the actual working pressure value, different section products should be selected. In principle, the larger the working pressure, the larger the section product should be selected. According to the size and direction of the actual working pressure of the working condition, a back-up ring can be added on one side or both sides to enhance the pressure bearing capacity.

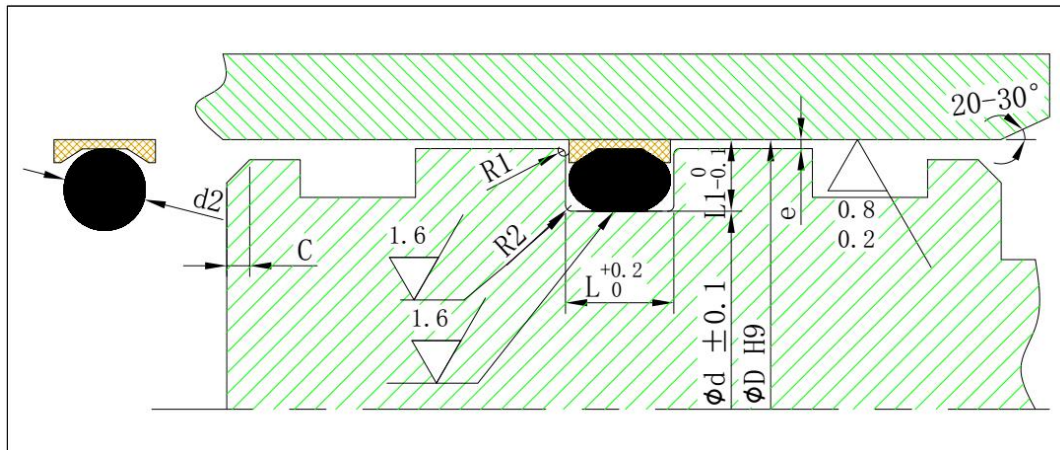
2. Standard material

Sealing ring: filled PTFE

O-Ring: NBR / FKM

3. Working Conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
6 ~ 2000mm	0 ~ 15MPa	-30 ~ 100(NBR) -20 ~ 160(FKM)	1.5m/s	Hydraulic oil, flame retardant liquid, water



4. Related Dimensions

$R2=0.5 \sim 1$; $C=(0.5 \sim 1.0)L$; The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

Bore Dia.	Section series	O-Ring Cross-Section	Groove Width	Groove Depth	Radial Clearance e	Fillet Radius Max.
		d2	L	L1	e	R1
6~13	A	1.78	2.5	1.5	0.15	0.1
14~26	B	2.62	3.3	2.0	0.20	0.1
28~56	C	3.53	4.7	3.0	0.20	0.2
58~160	D	5.33	7.5	5.0	0.25	0.3
165~400	E	6.99	11.0	7.5	0.30	0.3

5. Marking method

Mark it with the dimensions of Installation groove

For example, the standard $\phi 100$ SPGC is marked as SPGC100×90×7



6. Installation Dimensions

Nominal size			Groove width	Part No.
D	d	h	L	
28	22	4.4	4.7	SPGC0280
28.4	22.4	4.4	4.7	SPGC0284
30	24	4.4	4.7	SPGC0300
31	25	4.4	4.7	SPGC0310
31.5	25.5	4.4	4.7	SPGC0315
34	28	4.4	4.7	SPGC0340
35	29	4.4	4.7	SPGC0350
35.5	29.5	4.4	4.7	SPGC0355
36	30	4.4	4.7	SPGC0360
37	31	4.4	4.7	SPGC0370
37.5	31.5	4.4	4.7	SPGC0375
38	32	4.4	4.7	SPGC0380
40	34	4.4	4.7	SPGC0400
41	35	4.4	4.7	SPGC0410
41.5	35.5	4.4	4.7	SPGC0415
42	36	4.4	4.7	SPGC0420
44	38	4.4	4.7	SPGC0440
45	39	4.4	4.7	SPGC0450
46	40	4.4	4.7	SPGC0460
47	41	4.4	4.7	SPGC0470
48	42	4.4	4.7	SPGC0480
50	44	4.4	4.7	SPGC0500
51	45	4.4	4.7	SPGC0510
52	46	4.4	4.7	SPGC0520
54	48	4.4	4.7	SPGC0540
55	49	4.4	4.7	SPGC0550
56	50	4.4	4.7	SPGC0560
58	48	7	7.5	SPGC0580
60	50	7	7.5	SPGC0600
62	52	7	7.5	SPGC0620
63	53	7	7.5	SPGC0630
65	55	7	7.5	SPGC0650
66	56	7	7.5	SPGC0660
68	58	7	7.5	SPGC0680
70	60	7	7.5	SPGC0700
72	62	7	7.5	SPGC0720
73	63	7	7.5	SPGC0730
75	65	7	7.5	SPGC0750
77	67	7	7.5	SPGC0770
80	70	7	7.5	SPGC0800
81	71	7	7.5	SPGC0810
85	75	7	7.5	SPGC0850
90	80	7	7.5	SPGC0900

Nominal size			Groove width	Part No.
D	d	h	L	
95	85	7	7.5	SPGC0950
100	90	7	7.5	SPGC1000
105	95	7	7.5	SPGC1050
110	100	7	7.5	SPGC1100
112	102	7	7.5	SPGC1120
115	105	7	7.5	SPGC1150
120	110	7	7.5	SPGC1200
122	112	7	7.5	SPGC1220
125	115	7	7.5	SPGC1250
130	120	7	7.5	SPGC1300
135	125	7	7.5	SPGC1350
140	130	7	7.5	SPGC1400
142	132	7	7.5	SPGC1420
145	135	7	7.5	SPGC1450
150	140	7	7.5	SPGC1500
155	145	7	7.5	SPGC1550
160	150	7	7.5	SPGC1600
165	150	10.5	11	SPGC1650
170	155	10.5	11	SPGC1700
175	160	10.5	11	SPGC1750
180	165	10.5	11	SPGC1800
185	170	10.5	11	SPGC1850
190	175	10.5	11	SPGC1900
195	180	10.5	11	SPGC1950
200	185	10.5	11	SPGC2000
205	190	10.5	11	SPGC2050
210	195	10.5	11	SPGC2100
215	200	10.5	11	SPGC2150
220	205	10.5	11	SPGC2200
224	209	10.5	11	SPGC2240
225	210	10.5	11	SPGC2250
230	215	10.5	11	SPGC2300
235	220	10.5	11	SPGC2350
235	220	10.5	11	SPGC2350
240	225	10.5	11	SPGC2400
245	230	10.5	11	SPGC2450
250	235	10.5	11	SPGC2500
255	240	10.5	11	SPGC2550
260	245	10.5	11	SPGC2600
265	250	10.5	11	SPGC2650
270	255	10.5	11	SPGC2700
275	260	10.5	11	SPGC2750

SPGO



D

1. Application and properties

Suitable for two-way piston seal, especially for medium to heavy-duty quick response hydraulic cylinders in control, machine tool and construction machinery.

It has low friction coefficient, wear resistance and long service life. It can adapt to a wide range of working media and working temperature range by changing the material of O-ring. It can be used for special working conditions such as extremely high speed, extremely low speed without crawling phenomenon.

It is suitable for integral piston and the installation groove is small, which is conducive to design cylinder size.

Compliant with GB/T 15242.1-94 and GB/T 15242.3-94 standards.

Good extrusion resistance and larger installation clearance than general seals.

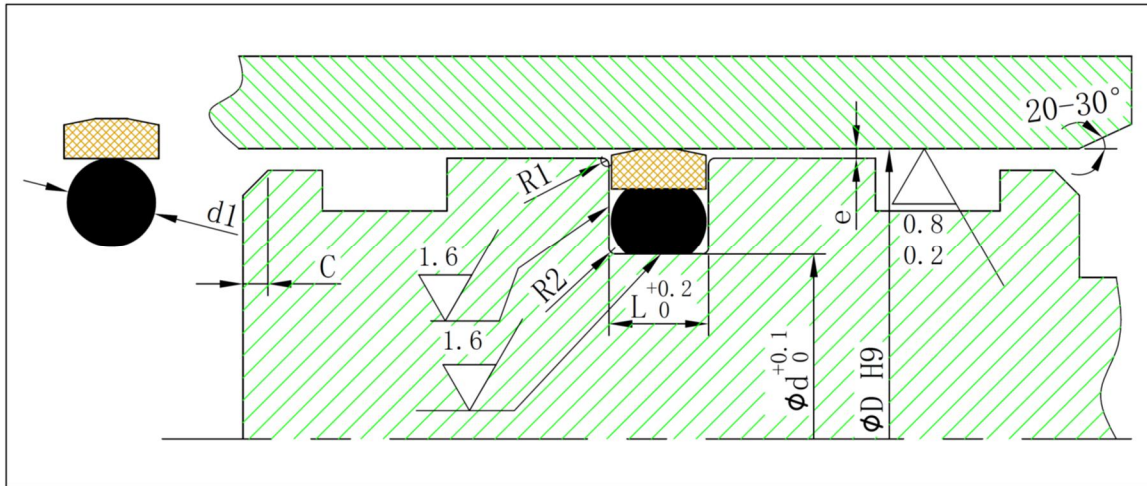
2. Standard material

Sealing ring: filled PTFE

O-Ring: NBR / FKM

3. Working Conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
40 ~ 2000mm	0 ~ 35MPa	-30 ~ 100(NBR) -20 ~ 160(FKM)	1.5m/s	Hydraulic oil, flame retardant liquid, water



4. Related Dimensions:

$R1=0.2 \sim 0.8, R2=0.5 \sim 1; C=(0.5 \sim 1.0)L$; The specific values are selected according to the section size of the seal.
The remaining values refer to "Installation Dimensions table"

5. Marking method:

Mark it with the dimensions of Installation groove

For example, the standard $\phi 100$ SPGO seal is marked as SPGO100×6.3

SPGO

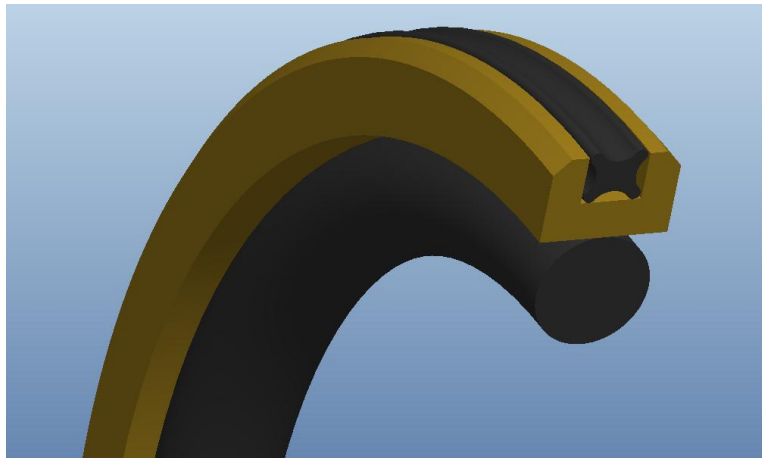


6. Installation Dimensions

Bore Dia	Groove Dia.	Part No.	O-ring Dimensions
D	L		dn×d1
60	6.3	SPGO60×6	43.5×5.3
65	6.3	SPGO65×6	48.0×5.3
70	6.3	SPGO70×6	53.0×5.3
75	6.3	SPGO75×6	58.0×5.3
80	6.3	SPGO80×6	63.0×5.3
85	6.3	SPGO85×6	67.0×5.3
90	6.3	SPGO90×6	73.0×5.3
95	6.3	SPGO95×6	77.5×5.3
100	6.3	SPGO100×6	83.0×5.3
105	6.3	SPGO105×6	87.5×5.3
110	6.3	SPGO110×6	92.5×5.3
115	6.3	SPGO115×6	97.5×5.3
120	6.3	SPGO120×6	103.0×5.3
125	6.3	SPGO125×6	108.0×5.3
130	6.3	SPGO130×6	112.0×5.3
135	6.3	SPGO135×6	118.0×5.3
140	6.3	SPGO140×6	123.19×5.3
145	6.3	SPGO145×6	128.0×5.3
150	6.3	SPGO150×6	132.72×5.3
155	6.3	SPGO155×6	138.0×5.3
160	6.3	SPGO160×6	142.24×5.3
165	6.3	SPGO165×6	148.5×5.3
170	6.3	SPGO170×6	151.77×5.3
175	6.3	SPGO175×6	158.0×5.3
180	6.3	SPGO180×6	164.47×5.3
185	6.3	SPGO185×6	167.0×5.3
190	6.3	SPGO190×6	173.0×5.3
195	6.3	SPGO195×6	177.17×5.3
80	8.1	SPGO80×7.9	56.0×6.99
85	8.1	SPGO85×7.9	61.0×6.99
90	8.1	SPGO90×7.9	66.0×6.99

Bore Dia	Groove Dia.	Part No.	O-ring Dimensions
D	L		dn×d1
95	8.1	SPGO95×7.9	71.0×6.99
100	8.1	SPGO100×7.9	77.5×6.99
105	8.1	SPGO105×7.9	82.0×6.99
110	8.1	SPGO110×7.9	86.0×6.99
115	8.1	SPGO115×7.9	92.0×6.99
120	8.1	SPGO120×7.9	97.0×6.99
125	8.1	SPGO125×7.9	103.0×6.99
130	8.1	SPGO130×7.9	107.0×6.99
135	8.1	SPGO135×7.9	112.0×6.99
140	8.1	SPGO140×7.9	117.0×6.99
145	8.1	SPGO145×7.9	122.0×6.99
150	8.1	SPGO150×7.9	126.37×6.99
155	8.1	SPGO155×7.9	132.0×6.99
160	8.1	SPGO160×7.9	136.0×6.99
165	8.1	SPGO165×7.9	142.24×6.99
170	8.1	SPGO170×7.9	145.42×6.99
175	8.1	SPGO175×7.9	152.0×6.99
180	8.1	SPGO180×7.9	157.5×6.99
185	8.1	SPGO185×7.9	160.0×6.99
190	8.1	SPGO190×7.9	165.0×6.99
195	8.1	SPGO195×7.9	170.0×6.99
200	8.1	SPGO200×7.9	177.17×6.99
210	8.1	SPGO210×7.9	185.0×6.99
220	8.1	SPGO220×7.9	197.0×6.99
230	8.1	SPGO230×7.9	207.5×6.99
240	8.1	SPGO240×7.9	218.0×6.99
250	8.1	SPGO250×7.9	227.0×6.99
260	8.1	SPGO260×7.9	237.0×6.99
270	8.1	SPGO270×7.9	250.0×6.99
280	8.1	SPGO280×7.9	258.0×6.99
290	8.1	SPGO290×7.9	265.0×6.99
300	8.1	SPGO300×7.9	280.0×6.99

D



1. Application and properties

It is composed of three parts. The rubber star-shaped ring is in the middle of the top, the rubber O-ring is at the bottom, and the filling PTFE sealing sliding ring is in the middle.

Suitable for two-way and reciprocating piston seal. It has dual safety with low friction and high elasticity, and good dynamic and static sealing performance. It allows for larger extrusion clearances while also having pressure retention capabilities. It has good dynamic and static sealing performance with minimal leakage in the cylinder. It is suitable for cylinders with strict requirements for position or pressure retention and relatively slow movement speed ($<0.5\text{m/s}$), such as pressure machine cylinders, support cylinders, positioning cylinders, piston-type accumulators, etc.

It has low friction coefficient and good sliding performance without crawling phenomenon. It can adapt to a wide range of working media and working temperature range by changing the material of O-ring and star-shaped ring. It is suitable for integral piston and the installation groove is small.

Compliant with GB/T 15242.1-94 and GB/T 15242.3-94 standards.

2. Standard material

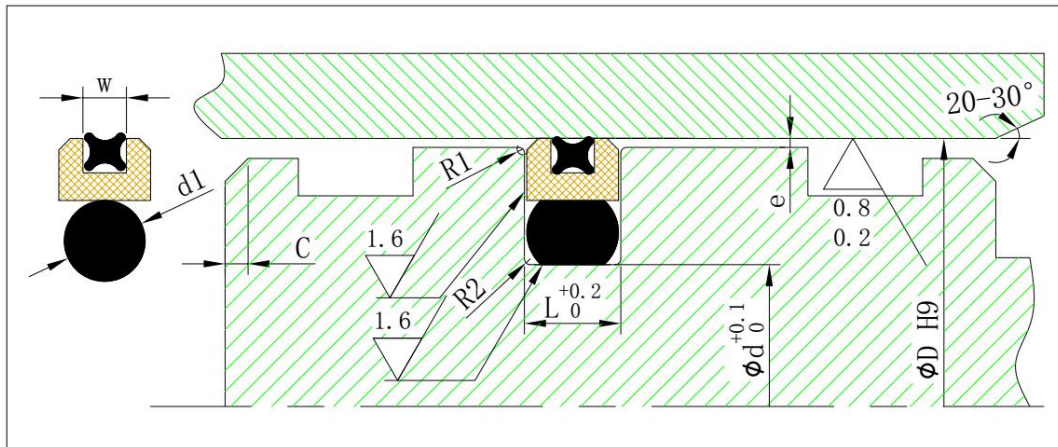
Sealing ring: filled PTFE

O-Ring: NBR / FKM

X-Ring: NBR / FKM

3. Working Conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
16 ~ 2000mm	0 ~ 20MPa	-30 ~ 100(NBR) -20 ~ 160(FKM)	0.5m/s	Hydraulic oil, flame retardant liquid, water,



4. Related Dimensions

$R2=0.5 \sim 2$; $C=(0.5 \sim 1.0)L$; The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

Bore Dia. D		Groove Dia.	Groove Width	Radius	Radial Clearance e max			O-Ring Cross-Section	X ring Seal Cross-Section
Standard Application	Light Application	d	H	R1	10 MPa	20 MPa	30 MPa	d1	W
15 ~ 39.9	40 ~ 79.9	D-11.0	4.2	0.5	0.25	0.15	0.10	3.53	1.78
40 ~ 79.9	80 ~ 132.9	D-15.5	6.3	0.6	0.30	0.20	0.15	5.33	1.78
80 ~ 132.9	133 ~ 252.9	D-21.0	8.1	1.0	0.30	0.20	0.15	6.99	2.62
133 ~ 252.9	-	D-24.5	8.1	1.0	0.30	0.20	0.15	6.99	2.62
253 ~ 462.9	-	D-28.0	9.5	1.0	0.45	0.30	0.25	8.40	3.53
463 ~ 700	-	D-35.0	11.5	1.0	0.55	0.40	0.35	10.00	5.33

Remark: The R1 value in the table represents its maximum value.

5. Marking method

Mark with the dimension of installation groove as below:

For example, the first seal in the Installation Dimensions table is marked as DAQ16×5×4.2



6. Installation Dimensions

Bore Dia	Groove Dia.	Groove Width	Part No.	O-ring Dimensions	X-ring Dimensions
D	d	L			
16	5	4.2	DAQ0160	4.34×3.53	12.42×1.78
18	7	4.2	DAQ0180	6.42×3.53	14.00×1.78
20	9	4.2	DAQ0200	8.42×3.53	15.60×1.78
22	11	4.2	DAQ0220	10.69×3.53	17.17×1.78
25	14	4.2	DAQ0250	13.87×3.53	20.35×1.78
28	17	4.2	DAQ0280	15.47×3.53	23.52×1.78
30	19	4.2	DAQ0300	18.66×3.53	25.12×1.78
32	21	4.2	DAQ0320	20.22×3.53	26.7×1.78
35	24	4.2	DAQ0350	23.40×3.53	29.87×1.78
40	29	4.2	DAQ0400L	28.17×3.53	34.65×1.78
42	31	4.2	DAQ0420L	29.75×3.53	37.82×1.78
45	34	4.2	DAQ0450L	32.92×3.53	37.82×1.78
48	37	4.2	DAQ0480L	36.09×3.53	41.00×1.78
50	39	4.2	DAQ0500L	37.70×3.53	44.17×1.78
50	34.5	6.3	DAQ0500	32.69×5.33	44.17×1.78
52	41	4.2	DAQ0520L	40.87×3.53	47.35×1.78
55	44	4.2	DAQ0550L	44.04×3.53	50.52×1.78
60	49	4.2	DAQ0600L	47.22×3.53	53.70×1.78
63	52	4.2	DAQ0630L	50.39×3.53	56.87×1.78
63	47.5	6.3	DAQ0630	46.99×5.33	56.87×1.78
65	54	4.2	DAQ0650L	53.57×3.53	60.05×1.78
70	59	4.2	DAQ0700L	56.74×3.53	63.22×1.78
70	54.5	6.3	DAQ0700	53.34×5.33	63.22×1.78
75	64	4.2	DAQ0750L	63.09×3.53	69.57×1.78
80	64.5	6.3	DAQ0800L	62.87×5.33	72.75×1.78
80	59	8.1	DAQ0800	58.00×6.99	71.12×2.62
85	69.5	6.3	DAQ0850L	69.22×5.33	75.92×1.78
85	64	8.1	DAQ0850	63.00×6.99	75.87×2.62
90	74.5	6.3	DAQ0900L	72.39×5.33	82.27×1.78
90	69	8.1	DAQ0900	68.00×6.99	82.22×2.62
95	79.5	6.3	DAQ0950L	78.74×5.33	88.62×1.78
95	74	8.1	DAQ0950	73.00×6.99	82.22×2.62
100	84.5	6.3	DAQ1000L	81.92×5.33	88.62×1.78
100	79	8.1	DAQ1000	78.00×6.99	88.57×2.62
105	89.5	6.3	DAQ1050L	88.27×5.33	94.97×1.78
105	84	8.1	DAQ1050	83.00×6.99	94.92×2.62



Installation Dimensions

Bore Dia	Groove Dia.	Groove Width	Part No.	O-ring Dimensions	X-ring Dimensions
D	d	L			
110	94.5	6.3	DAQ1100L	91.44×5.33	101.32×1.78
110	89	8.1	DAQ1100	88.00×6.99	101.27×2.62
115	99.5	6.3	DAQ1150L	97.79×5.33	107.67×1.78
115	94	8.1	DAQ1150	93.00×6.99	107.62×2.62
120	104.5	6.3	DAQ1200L	100.97×5.33	114.02×1.78
120	99	8.1	DAQ1200	98.00×6.99	107.62×2.62
125	109.5	6.3	DAQ1250L	107.32×5.33	114.02×1.78
125	104	8.1	DAQ1250	103.00×6.99	113.97×2.62
130	114.5	6.3	DAQ1300L	113.67×5.33	120.37×1.78
130	109	8.1	DAQ1300	108.00×6.99	120.32×2.62
135	114	8.1	DAQ1350L	113.67×5.33	126.67×2.62
140	119	8.1	DAQ1400L	116.84×6.99	126.67×2.62
150	129	8.1	DAQ1500L	126.37×6.99	139.37×2.62
160	139	8.1	DAQ1600L	135.89×6.99	145.72×2.62
170	149	8.1	DAQ1700L	145.42×6.99	158.42×2.62
180	159	8.1	DAQ1800L	158.12×6.99	171.11×2.62
190	169	8.1	DAQ1900L	164.47×6.99	177.47×2.62
200	179	8.1	DAQ2000L	177.17×6.99	190.17×2.62
210	189	8.1	DAQ2100L	183.52×6.99	196.52×2.62
220	199	8.1	DAQ2200L	196.22×6.99	202.87×2.62
230	209	8.1	DAQ2300L	208.92×6.99	215.57×2.62
240	219	8.1	DAQ2400L	215.27×6.99	221.92×2.62
250	229	8.1	DAQ2500L	227.97×6.99	234.62×2.62
250	225.5	8.1	DAQ2500	227.97×6.99	234.62×2.62
280	252	9.5	DAQ2800	250.00×8.40	266.29×3.53
300	272	9.5	DAQ3000	270.00×8.40	278.99×3.53
310	282	9.5	DAQ3100	280.00×8.40	291.69×3.53
320	292	9.5	DAQ3200	290.00×8.40	304.39×3.53
350	322	9.5	DAQ3500	320.00×8.40	329.79×3.53
400	372	9.5	DAQ4000	370.00×8.40	380.59×3.53
420	392	9.5	DAQ4200	390.00×8.40	380.59×3.53
450	422	9.5	DAQ4500	420.00×8.40	430.66×3.53
480	445	11.5	DAQ4800	444.00×10.0	456.06×5.33
500	465	11.5	DAQ5000	464.00×10.0	456.06×5.33
600	565	11.5	DAQ6000	564.00×10.0	557.58×5.33
700	665	11.5	DAQ7000	664.00×10.0	658.88×5.33



1. Application and properties

Composed of four pieces, with a rubber star-shaped ring in the middle and a rubber O-ring at the bottom, with a PTFE-filled sealing slip ring.

Suitable for two-way and reciprocating piston seal. It has dual safety with low friction and high elasticity, low gas permeability, and good dynamic and static sealing performance. Allows for a large extrusion gap and is suitable for high-pressure oil cylinders where position or pressure retention requirements are strict and the movement speed is not particularly fast ($<0.5\text{m/s}$), such as pressure machine oil cylinders, support oil cylinders, clamping oil cylinders, positioning oil cylinders, piston accumulators, etc. Especially recommended for heavy-duty and large-diameter applications. In high-pressure applications, the friction coefficient is small, the sliding performance is good, and there is no creeping phenomenon. The groove structure is simple and the installation is convenient.

It can adapt to a wide range of working media and working temperature range by changing the material of O-ring and star-shaped ring. It is suitable for integral piston with small groove installation.

Compliant with GB/T 15242.1-94 and GB/T 15242.3-94 standards.

2. Standard material

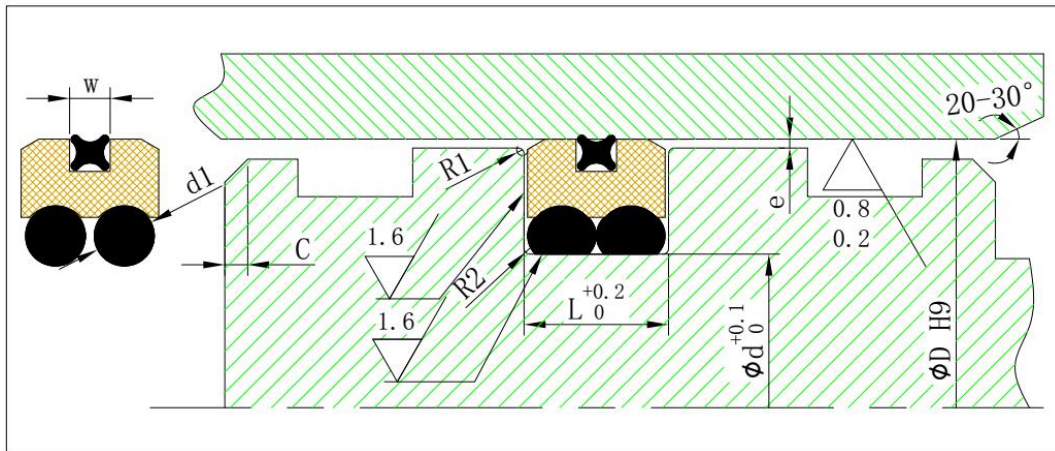
Sealing ring: filled PTFE

O-Ring: NBR / FKM

X-Ring: NBR / FKM

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
40 ~ 2000mm	0 ~ 20MPa	-30 ~ 100(NBR) -20 ~ 160(FKM)	0.5m/s	Hydraulic oil, flame retardant liquid, water,



4. Related Dimensions

$R2=0.5 \sim 2$; $C=(0.5 \sim 1.0)L$; The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

Bore Dia. D		Groove Dia.	Groove Width	Radius	Radial Clearance e max			O-Ring Cross-Section	X ring Seal Cross-Section
Standard Application	Heavy Duty Application	d	H	R1	10 MPa	20 MPa	30 MPa	d1	W
40 ~ 79.9	25 ~ 140	D-10	6.3	0.3	0.3	0.2	0.15	2.62	1.78
80 ~ 132.9	50 ~ 250	D-13	8.3	0.5	0.4	0.3	0.15	3.53	2.62
133 ~ 252.9	100 ~ 480	D-18	12.3	0.6	0.4	0.3	0.20	5.33	3.53
463 ~ 700	425 ~ 700	D-31	16.3	1.0	0.5	0.4	0.30	6.99	5.33

5. Marking method

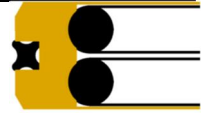
Mark with the dimension of installation groove as below:

For example, the $\phi 100$ DAQ2 combination seal is marked as DAQ2-100×87×8.3



6. Installation Dimensions

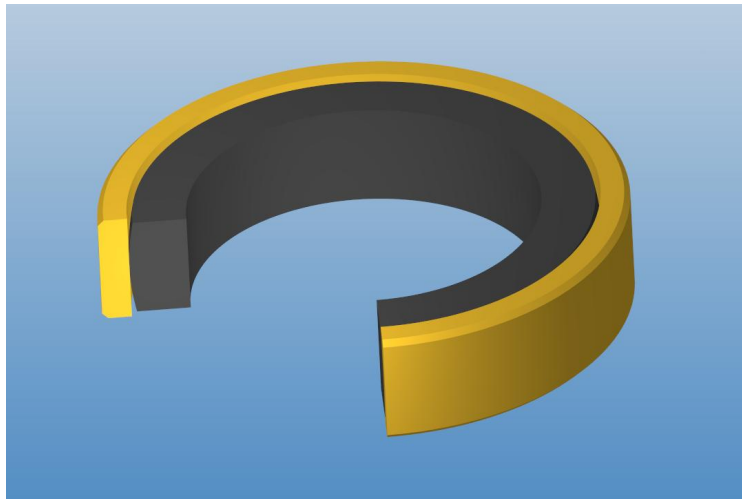
Bore Dia.	Groove Dia.	Groove Width	Part No.	O-ring Dimensions	X-ring Dimensions
D	d	L			
40	30	6.3	DAQ20400	29.82×2.62	34.65×1.78
42	32	6.3	DAQ20420	31.42×2.62	37.82×1.78
45	35	6.3	DAQ20450	34.59×2.62	37.82×1.78
48	38	6.3	DAQ20480	37.77×2.62	41.00×1.78
50	40	6.3	DAQ20500	39.34×2.62	44.17×1.78
52	42	6.3	DAQ20520	40.94×2.62	47.35×1.78
55	45	6.3	DAQ20550	44.12×2.62	50.52×1.78
60	50	6.3	DAQ20600	48.90×2.62	53.70×1.78
63	53	6.3	DAQ20630	52.07×2.62	56.87×1.78
65	55	6.3	DAQ20650	53.64×2.62	60.05×1.78
70	60	6.3	DAQ20700	58.42×2.62	63.22×1.78
75	65	6.3	DAQ20750	63.17×2.62	69.57×1.78
80	67	8.3	DAQ20800	66.27×3.53	71.12×2.62
85	72	8.3	DAQ20850	69.44×3.53	75.87×2.62
90	77	8.3	DAQ20900	75.79×3.53	82.22×2.62
95	82	8.3	DAQ20950	78.97×3.53	82.22×2.62
100	87	8.3	DAQ21000	85.32×3.53	88.57×2.62
105	92	8.3	DAQ21050	91.67×3.53	94.92×2.62
110	97	8.3	DAQ21100	94.84×3.53	101.27×2.62
115	102	8.3	DAQ21150	101.19×3.53	107.62×2.62
120	107	8.3	DAQ21200	104.37×3.53	107.62×2.62
125	112	8.3	DAQ21250	110.72×3.53	113.97×2.62
130	117	8.3	DAQ21300	113.89×3.53	120.32×2.62
135	117	12.3	DAQ21350	113.67×5.33	123.42×3.53



DAQ2

Installation Dimensions

Bore Dia	Groove Dia.	Groove Width	Part No.	O-ring Dimensions	X-ring Dimensions
D	d	L			
140	122	12.3	DAQ21400	120.02×5.33	126.60×3.53
150	132	12.3	DAQ21500	129.54×5.33	136.12×3.53
160	142	12.3	DAQ21600	139.07×5.33	145.65×3.53
170	152	12.3	DAQ21700	148.49×5.33	158.35×3.53
180	162	12.3	DAQ21800	158.12×5.33	164.70×3.53
190	172	12.3	DAQ21900	170.82×5.33	177.40×3.53
200	182	12.3	DAQ22000	177.17×5.33	183.75×3.53
210	192	12.3	DAQ22100	189.87×5.33	196.45×3.53
220	202	12.3	DAQ22200	196.22×5.33	202.80×3.53
230	212	12.3	DAQ22300	208.92×5.33	215.50×3.53
240	222	12.3	DAQ22400	221.62×5.33	221.85×3.53
250	232	12.3	DAQ22500	227.97×5.33	234.55×3.53
280	262	12.3	DAQ22800	253.37×5.33	266.29×3.53
300	282	12.3	DAQ23000	278.77×5.33	278.99×3.53
320	302	12.3	DAQ23200	291.47×5.33	304.39×3.53
350	332	12.3	DAQ23500	329.57×5.33	329.79×3.53
400	382	12.3	DAQ24000	380.37×5.33	380.59×3.53
420	402	12.3	DAQ24200	405.26×5.33	380.59×3.53
450	432	12.3	DAQ24500	430.66×5.33	430.66×3.53
480	449	16.3	DAQ24800	443.36×6.99	456.06×5.33
500	469	16.3	DAQ25000	468.76×6.99	478.76×5.33
600	569	16.3	DAQ26000	557.66×6.99	587.58×5.33
700	669	16.3	DAQ27000	658.88×6.99	688.88×5.33



1. Application and properties

Suitable for two-way and reciprocating piston seal, especially for high-pressure heavy-duty oil cylinders that require low friction, no creeping, and fast response, such as metallurgy, construction machinery, etc.

The friction coefficient is small, wear-resistant, and has a long service life. The adaptability and working temperature range of the working medium can be changed by replacing the square ring material. It can be used for special working conditions such as extremely high speed and extremely low speed.

Suitable for integrated piston and the installation groove is small, which is conducive to design the cylinder size.

Compliant with GB/T 15242.1-94 and GB/T 15242.3-94 standards.

It has high working pressure, good extrusion resistance, and larger installation clearance than general sealing components.

2. Standard material

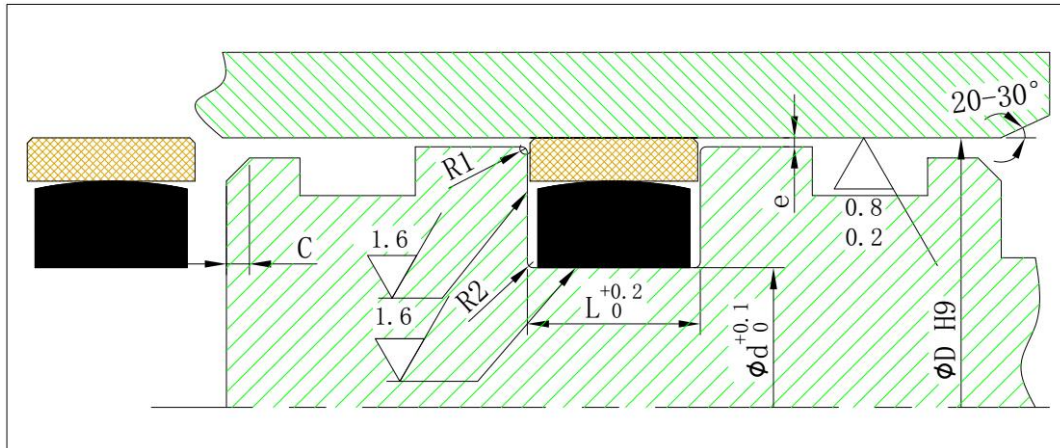
Sealing ring: filled PTFE

O-Ring: NBR / FKM

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
55 ~ 2000mm	0 ~ 40MPa	-30 ~ 100(NBR) -20 ~ 160(FKM)	1.5m/s	Hydraulic oil, flame retardant liquid, water,

GSF-W



4. Related Dimensions

$R2=0.5 \sim 1$; $C=(0.5 \sim 1.0)L$; The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

Bore Dia.	Groove Dia.	Groove Width	Radius	Radial Clearance e			
				16MPa	26MPa	32MPa	40MPa
D	d	L	R1				
55.0 ~ 149.9	D-10.0	10.0	0.2	0.60	0.50	0.40	0.40
150.0 ~ 244.9	D-12.5	12.5	0.2	0.75	0.65	0.55	0.50
245.0 ~ 500.0	D-15.0	15.0	0.4	0.75	0.65	0.55	0.50
500.1 ~ 760.0	D-17.5	17.5	0.6	0.75	0.65	0.55	0.50
760.1 ~ 999.9	D-20.0	20.0	0.6	0.80	0.70	0.60	0.55
≥ 1000	D-20.0	20.5	0.6	0.80	0.70	0.60	0.55

5. Marking method

Marking with the dimension of installation groove

For example, the standard $\phi 100$ GSF-W seal is marked as GSF-W100×80×10



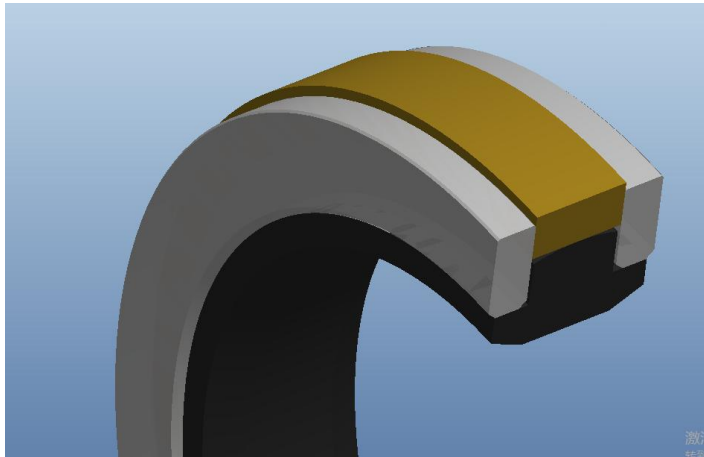
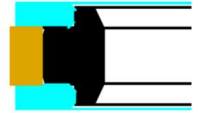
GSF-W

6. Installation Dimensions

Bore Dia.	Groove Dia.	Groove Width	Part No.
D	d	L	
55	40	10	GSF-W0550
60	45	10	GSF-W0600
70	55	10	GSF-W0700
80	60	10	GSF-W0800
90	70	10	GSF-W0900
100	80	10	GSF-W1000
110	90	10	GSF-W1100
115	95	10	GSF-W1150
120	100	10	GSF-W1200
130	110	10	GSF-W1300
140	120	10	GSF-W1400
150	125	12.5	GSF-W1500
160	135	12.5	GSF-W1600
165	140	12.5	GSF-W1650
170	145	12.5	GSF-W1700
180	155	12.5	GSF-W1800
185	160	12.5	GSF-W1850
190	165	12.5	GSF-W1900
200	175	12.5	GSF-W2000
205	180	12.5	GSF-W2050
210	185	12.5	GSF-W2100
215	190	12.5	GSF-W2150
220	195	12.5	GSF-W2200
225	200	12.5	GSF-W2250
230	205	12.5	GSF-W2300
240	215	12.5	GSF-W2400
245	215	15	GSF-W2450
250	220	15	GSF-W2500
260	230	15	GSF-W2600
270	240	15	GSF-W2700
275	245	15	GSF-W2750
280	250	15	GSF-W2800
285	255	15	GSF-W2850
290	260	15	GSF-W2900
300	270	15	GSF-W3000
305	275	15	GSF-W3050
310	280	15	GSF-W3100
320	290	15	GSF-W3200
325	295	15	GSF-W3250
330	300	15	GSF-W3300
335	305	15	GSF-W3350
340	310	15	GSF-W3400

Bore Dia.	Groove Dia.	Groove Width	Part No.
D	d	L	
350	320	15	GSF-W3500
355	325	15	GSF-W3550
360	330	15	GSF-W3600
370	340	15	GSF-W3700
380	350	15	GSF-W3800
390	360	15	GSF-W3900
400	370	15	GSF-W4000
455	420	17.5	GSF-W4550
460	425	17.5	GSF-W4600
470	435	17.5	GSF-W4700
475	440	17.5	GSF-W4750
510	475	17.5	GSF-W5100
530	495	17.5	GSF-W5300
540	505	17.5	GSF-W5400
550	515	17.5	GSF-W5500
560	525	17.5	GSF-W5600
570	535	17.5	GSF-W5700
580	545	17.5	GSF-W5800
590	555	17.5	GSF-W5900
600	565	17.5	GSF-W6000
610	575	17.5	GSF-W6100
620	585	17.5	GSF-W6200
630	595	17.5	GSF-W6300
640	605	17.5	GSF-W6400
650	615	17.5	GSF-W6500
655	620	17.5	GSF-W6550
660	625	17.5	GSF-W6600
670	635	17.5	GSF-W6700
680	645	17.5	GSF-W6800
690	655	17.5	GSF-W6900
700	665	17.5	GSF-W7000
720	685	17.5	GSF-W7200
750	715	17.5	GSF-W7500
780	740	20	GSF-W7800
800	760	20	GSF-W8000
820	780	20	GSF-W8200
850	810	20	GSF-W8500
880	840	20	GSF-W8800
900	860	20	GSF-W9000
950	910	20	GSF-W9500
980	940	20	GSF-W9800
1000	960	20	GSF-W10000

SPGW



1. Application and properties

Suitable for long stroke and wide range of pressure conditions, and performs excellently in heavy-duty two-way piston sealing occasions under high pressure conditions.

Good static sealing performance, can be applied to larger piston clearances, and has good leak control, extrusion resistance, and wear resistance in the seal system of heavy-duty and engineering machinery oil cylinder pistons.

Suitable for integral piston, and the installation groove is small.

Compliant with GB/T 15242.1-94 and GB/T 15242.3-94 standards

The outstanding advantages of this seal are good extrusion resistance, low leakage, and long service life. It is widely used in high-pressure heavy-duty oil cylinders (such as excavator oil cylinders).

2. Standard material

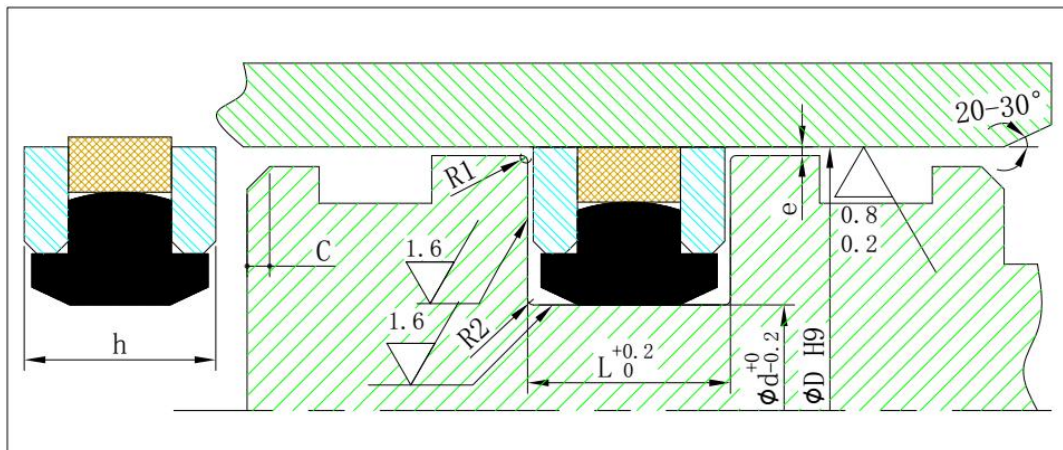
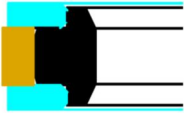
Sealing ring: filled PTFE

O-Ring: NBR / FKM

Back-up ring: POM/PA

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
50 ~ 2000mm	0 ~ 50MPa	-30 ~ 100(NBR) -20 ~ 160(FKM)	1.5m/s	Hydraulic oil, flame retardant liquid,water



4. Related Dimensions

$R1=0.2 \sim 0.5$; $R2=0.5 \sim 1$; $C=(0.5 \sim 1.0)L$; $e=0.1 \sim 0.5$, The specific value is selected according to the size of the section of the seal and the level of the working oil pressure, and the remaining values are listed in the Installation Dimensions table.

5. Marking method

Mark with the dimension of installation groove

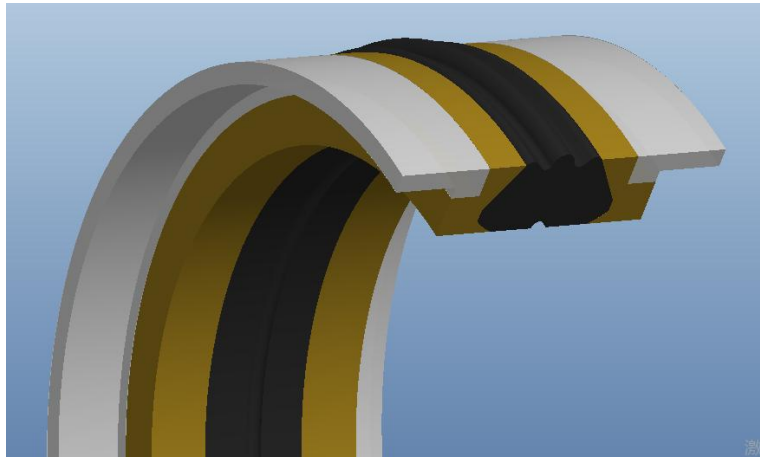
For example, the standard $\phi 100$ SPGW combination seal is marked as SPGW100 $\times$ 85 $\times$ 12

6. Installation Dimensions

Nominal size			L	Part No.
D	d	h		
50	36	8.5	9.0	SPGW0500
55	41	8.5	9.0	SPGW0550
60	46	8.5	9.0	SPGW0600
63	48	10.5	11.0	SPGW0630
65	50	10.5	11.0	SPGW0650
70	55	10.5	11.0	SPGW0700
75	60	10.5	11.0	SPGW0750
80	65	10.5	11.0	SPGW0800
85	70	10.5	11.0	SPGW0850
90	75	10.5	11.0	SPGW0900
95	80	10.5	11.0	SPGW0950
100	85	12.0	12.5	SPGW1000
105	90	12.0	12.5	SPGW1050
110	95	12.0	12.5	SPGW1100
115	100	12.0	12.5	SPGW1150
120	105	12.0	12.5	SPGW1200
125	102	15.5	16.0	SPGW1250
130	107	15.5	16.0	SPGW1300
135	112	15.5	16.0	SPGW1350
140	117	15.5	16.0	SPGW1400
145	122	15.5	16.0	SPGW1450

Nominal size			L	Part No.
D	d	h		
150	127	15.5	16.0	SPGW1500
155	132	15.5	16.0	SPGW1550
160	137	15.5	16.0	SPGW1600
165	142	15.5	16.0	SPGW1650
170	147	15.5	16.0	SPGW1700
180	157	15.5	16.0	SPGW1800
185	162	15.5	16.0	SPGW1850
190	167	15.5	16.0	SPGW1900
200	177	15.5	16.0	SPGW2000
210	187	15.5	16.0	SPGW2100
220	197	15.5	16.0	SPGW2200
225	202	15.5	16.0	SPGW2250
230	207	15.5	16.0	SPGW2300
240	217	15.5	16.0	SPGW2400
250	222	17.0	17.5	SPGW2500
260	232	17.0	17.5	SPGW2600
270	242	17.0	17.5	SPGW2700
280	252	17.0	17.5	SPGW2800
300	272	17.0	17.5	SPGW3000
320	292	17.0	17.5	SPGW3200
350	322	17.0	17.5	SPGW3500

DPM



1. Application and properties

DPM is a two-way sealing and guiding component consisting of one elastic body, two back-up rings, and two guide rings. The elastic body can provide good sealing action dynamically and statically, the back-up rings prevent the elastic body from being squeezed into the sealing gap, and the guide rings guide the piston inside the cylinder and absorb radial forces.

It is mainly used for oil cylinders with low movement speeds, strict requirements for internal leakage, and limited installation space for piston seals, such as bulldozers, excavators, loaders, hydraulic gates, and agricultural machinery.

The outstanding feature of this seal is that the retaining rings, guide rings, and sealing components are installed in one groove, greatly saving installation space. It is usually used for oil cylinders with smaller diameters, and other sealing components are not required to be installed on the piston.

It is usually used for integral piston.

2. Standard material

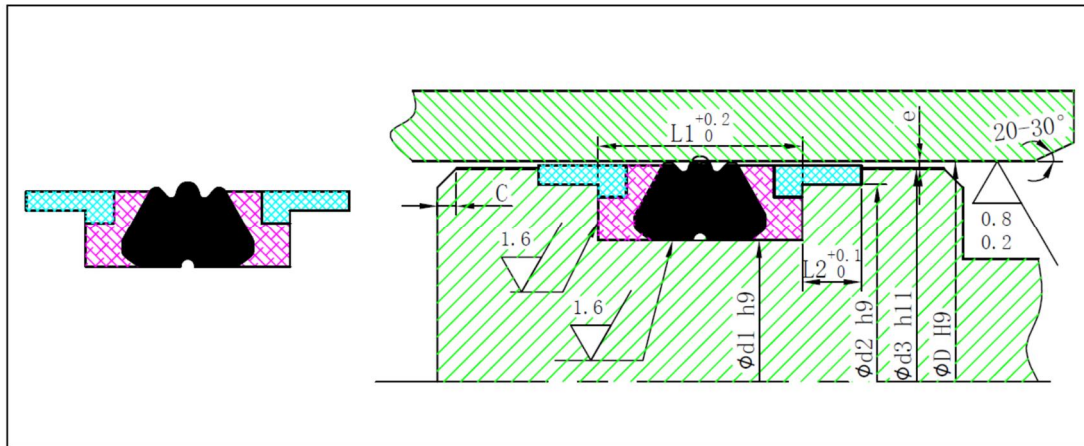
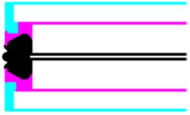
Guide ring: POM

Back-up ring: TPR

Elastomer: NBR

3. Working Conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
20 ~ 2000mm	0 ~ 35MPa	-30 ~ 100(NBR) -20 ~ 160(FKM)	0.3m/s	Hydraulic oil, flame retardant liquid,water



4. Related Dimensions

$R=0.3 \sim 0.5$; $C=3 \sim 15$. The specific value is selected according to the size of the section of the seal, and the remaining values are listed in the Installation Dimensions table.

5. Marking method

Mark with the dimension of installation groove

For example, the seal of standard 100 (Part No. DPM393275) is marked as: DPM100×75×22.4×93.15×98×6.35

6. Installation Dimensions

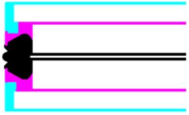
Bore Dia. D	Groove Size					Part No.
	d1	L1	d2	d3	L2	
25	15	12.5	22	24	4	DPM098059/1
25	16	13.5	22	24	2.1	DPM098062
30	17	15.4	26.5	28.5	6.35	DPM118066
30	21	13.5	27	29	2.1	DPM118078
32	22	12.5	29	31	4	DPM125086/2
32	22	15.5	28	31	2.6	DPM125086/1
32	22	16.4	28.5	30.5	6.35	DPM125086
35	25	15.5	31	34	2.6	DPM137098/1
35	25	16.4	31.4	33.5	6.35	DPM137098
40	24	18.4	35.4	38.5	6.35	DPM157094
40	26	15.5	36	39	2.6	DPM157102
40	30	12.5	36	38	4	DPM157118
40	30	16.4	35.4	38.5	6.35	DPM157118/1
40	32	15.5	36	39.4	3.2	DPM040032
45	29	18.4	40.4	43.5	6.35	DPM177114

DPM



Installation Dimensions

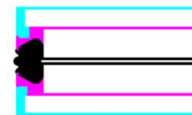
Bore Dia.	Groove Size					Part No.
D	d1	L1	d2	d3	L2	
45	31	15.5	41	44	2.6	DPM177122
45	35	16.4	40.4	43.5	6.35	DPM177137
45	37	15.5	41	44.4	3.2	DPM045037
50	34	18.4	45.4	48.5	6.35	DPM196113
50	34	20.5	46	49	3.1	DPM196113/1
50	38	20.5	46	49.4	4.2	DPM196146
55	39	18.4	50.36	53.5	6.35	DPM216153
55	39	20.5	51	54	3.1	DPM216153/1
60	44	18.4	55.4	58.5	6.35	DPM236173
60	44	20.5	56	59	3.1	DPM236173/1
60	48	20.5	56	59.4	4.2	DPM236186
63	47	18.4	58.4	61.5	6.35	DPM248185
63	47	19.4	58.4	61.5	6.35	DPM248185/1
63	47	20.5	59	62	3.1	DPM248185/2
63	51	20.5	59	62.4	4.2	DPM248199
63	53	12.5	60	62	4	DPM248208
65	49	20.5	61	64	3.1	DPM255192
65	50	18.4	60.4	63.5	6.35	DPM255196
70	50	22.4	64.2	68.3	6.35	DPM275196
70	54	20.5	66	69	3.1	DPM275212
70	55	20.5	66	68.5	5	DPM275216
70	58	20.5	66	69.4	4.2	DPM275228
75	55	22.4	69.2	73.3	6.35	DPM295216
75	59	20.5	71	74	3.1	DPM295196
80	60	22.4	74.15	78.3	6.35	DPM314236
80	62	22.5	76	79	3.6	DPM314244
80	65	20	76	78.5	5	DPM314255
80	66	22.5	76	79.4	5.2	DPM314261
85	65	22.4	79.15	83.3	6.35	DPM334255
90	70	22.4	84.15	88.3	6.35	DPM354275
90	72	22.5	86	89	3.6	DPM354278
90	76	22.5	86	89.4	5.2	DPM345311
95	75	22.4	89.15	93.3	6.35	DPM374295
100	75	22.4	93.15	98	6.35	DPM393275
100	80	25	95	98	6.35	DPM393314
100	82	22.5	96	99	3.6	DPM393322
100	85	20	96	98.5	5	DPM393334
100	86	20	96	98.5	5	DPM393338
100	86	22.5	96	99.4	5.2	DPM393338/1
105	80	22.4	98.1	103	6.35	DPM413314



Installation Dimensions

Bore Dia.	Groove Size					Part No..
D	d1	L1	d2	d3	L2	
110	85	22.4	103.1	108	6.35	DPM433334
110	92	22.5	106	109	3.6	DPM433362
110	96	22.5	106	109.4	5.2	DPM433378
115	90	22.4	108.1	113	6.35	DPM452354
115	97	22.5	111	114	3.6	DPM452384
120	95	22.4	113.1	118.1	6.35	DPM472374
120	106	22.5	116	119.4	5.2	DPM472417
125	100	25.4	118.1	123	6.35	DPM492393
125	103	26.5	121	124	5.1	DPM492405
125	105	25	120	123	6.35	DPM492413/1
125	105	25.4	119.1	123.3	6.35	DPM492413
125	108	26.5	121	124.4	7.2	DPM492421
130	105	25.4	123.1	128	6.35	DPM511413/1
130	105	25.4	122.6	127.5	9.5	DPM511413
135	110	25.4	128.1	133	6.35	DPM531433/1
135	110	25.4	127.6	132.5	9.5	DPM531433
140	115	25.4	133	138	6.35	DPM551452/1
140	115	25.4	132.6	137.5	9.5	DPM551452
140	118	26.5	136	139	5.1	DPM551464
140	123	26.5	136	139.4	7.2	DPM140123
145	120	25.4	138.3	143	6.35	DPM570472/1
145	120	25.4	137.6	142.5	9.5	DPM570472
150	125	25.4	143	148	6.35	DPM590492/1
150	125	25.4	142.6	147.5	9.5	DPM590492
150	128	26.5	146	149	5.1	DPM590504
150	133	26.5	146	149.4	7.2	DPM590518
155	130	25.4	148	153	6.35	DPM610511/1
155	130	25.4	147.6	152.5	9.5	DPM610511
160	130	25.4	153	157.5	6.35	DPM629511/1
160	130	25.4	152.6	157.5	9.5	DPM629511
160	130	25.4	152.6	157.5	9.5	DPM629531
160	138	26.5	156	159	5.1	DPM629543
160	143	26.5	156	159.4	7.2	DPM629558
165	140	25.4	157.6	162.5	9.5	DPM649551
170	145	25.4	161.7	167.1	12.7	DPM669570
170	148	26.5	166	169	5.1	DPM669581
175	150	25.4	166.7	172.1	12.7	DPM688590
180	150	35.4	173	177.9	6.35	DPM708590
180	155	25.4	171.7	177.1	12.7	DPM708610
180	163	26.5	176	179.4	7.2	DPM180163

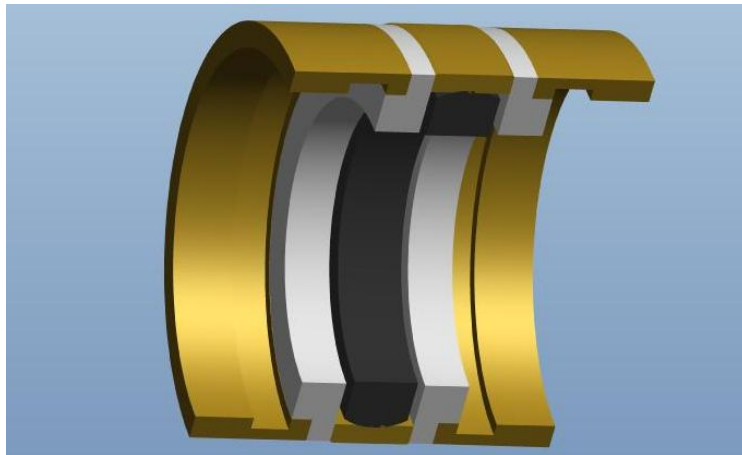
DPM



Installation Dimensions

Bore Dia.	Groove Size					Part No.
D	d1	L1	d2	d3	L2	
185	160	25.4	176.7	182.1	12.7	DPM728629
190	165	25.4	181.7	187	12.7	DPM748649
195	170	25.4	186.7	192	12.7	DPM767669
200	170	35.4	193	198	6.35	DPM787669
200	175	25.4	191.6	197	12.7	DPM787688
200	175	31.5	196	199	6.6	DPM787688/1
210	185	25.4	201.6	207	12.7	DPM826728
220	190	35.4	212.7	217.9	6.35	DPM866748
220	195	25.4	211.6	217	12.7	DPM866767
230	205	25.4	221.6	227	12.7	DPM905807
240	215	25.4	231.6	237	12.7	DPM944846
250	220	35.4	242.9	247.9	6.35	DPM984866
250	225	25.4	241.6	247	12.7	DPM984886
260	235	35.1	252.9	257	12.7	DPM1024925
280	255	25.4	271.6	277	12.7	DPM1103022
300	275	25.4	291.6	297	12.7	DPM11811082
320	290	25.4	311.6	317	12.7	DPM1259114
320	290	35.4	312.4	317	9.5	DPM1259114/1
320	295	25.4	311.6	317	12.7	DPM12591161
360	335	25.4	351.6	357	12.7	DPM14171318

D



1. Application and properties

DDKK is a two-way sealing and guiding component consisting of one elastic body, one sealing ring, two back-up rings, and two guide rings. The elastic body is made of nitrile rubber or fluororubber, which applies pressure to the sealing ring and makes it tightly adhere to the cylinder, thereby providing good sealing action. The sealing ring is a special PTFE-filled material, which has suitable stiffness and a very low friction coefficient with the fitting friction pair. The back-up rings prevent the elastic body from being squeezed into the sealing gap, and the guide rings guide the piston movement inside the cylinder and absorb radial forces. The materials of the back-up rings and guide rings may be special plastics such as PTFE-filled, nylon, or polyoxymethylene.

It is mainly used for oil cylinders that require a small friction coefficient in the sealing system and have limited installation space for piston seals.

The outstanding feature of this seal is that the back-up rings, guide rings, and sealing components are installed in one groove, greatly saving installation space. It is usually used for oil cylinders with smaller diameters, and other sealing components are not required to be installed on the piston.

2. Standard material

Sealing ring: filled PTFE

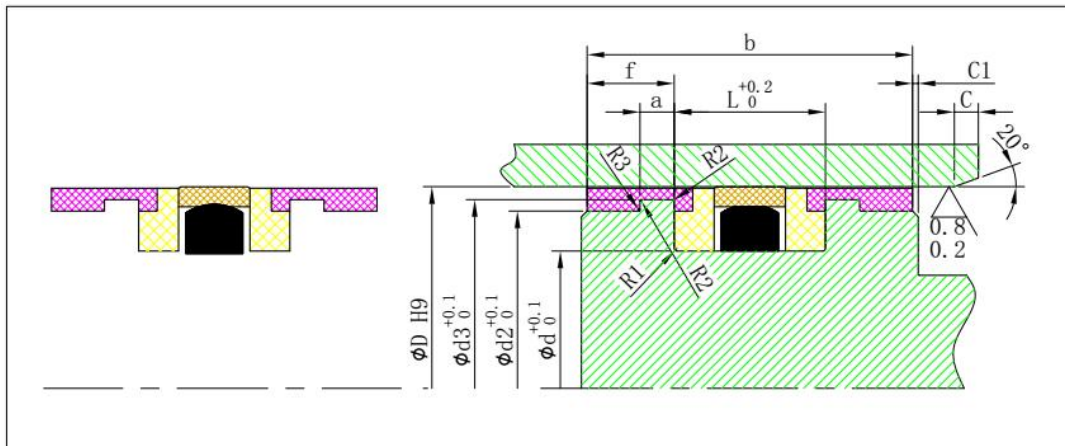
Elastomer: NBR / FKM

Back-up ring: PTFE / PA

Guide ring: PTFE / PA

3. Working conditons

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
40 ~ 2000mm	0 ~ 30MPa	-30 ~ 100(NBR) -20 ~ 160(FKM)	1.0m/s	Hydraulic oil, flame retardant liquid,water



4. Related Dimensions

$R1=0.3 \sim 0.5$; $R2=0.5$, $R3=0.2$, $C1=3 \sim 15$. The specific value is selected according to the size of the section of the seal, and the remaining values are listed in the Installation Dimensions table.

5. Marking method

Mark with the dimension of installation groove

For example, the standard $\phi 100$ DDKK combination seal is marked as DDKK100×82×43

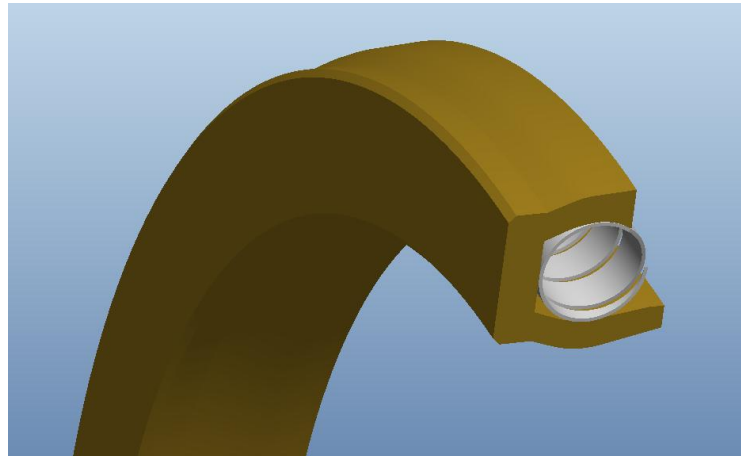
6. Installation Dimensions

D	d	b	d2	d3	a	L	f	C	Part No.
40	26	32	32	36	3.5	15.5	8.25	7	DDKK0400
45	31	32	37	41	3	15.5	8.25	7	DDKK0450
50	34	39	42	46	3	20.5	9.25	7	DDKK0500
56	40	39	48	52	3	20.5	9.25	7	DDKK0560
60	44	39	52	56	3	20.5	9.25	7	DDKK0600
63	47	39	55	59	3	20.5	9.25	7	DDKK0630
65	49	39	57	61	3	20.5	9.25	7	DDKK0650
70	54	39	62	66	3	20.5	9.25	7	DDKK0700
75	59	39	67	71	3	20.5	9.25	7	DDKK0750
80	62	43	72	76	3	22.5	10.25	7	DDKK0800
85	67	43	77	81	3	22.5	10.25	7	DDKK0850
90	72	43	82	86	3	22.5	10.25	7	DDKK0900
95	77	43	87	91	3	22.5	10.25	7	DDKK0950
100	82	43	92	96	3	22.5	10.25	7	DDKK1000



Installation Dimensions

D	d	b	d2	d3	a	L	f	C	Part No.
100	82	43	92	96	3	22.5	10.25	7	DDKK1000
105	87	43	97	101	3	22.5	10.25	10	DDKK1050
110	92	43	102	106	3	22.5	10.25	10	DDKK1100
115	97	43	107	111	3	22.5	10.25	10	DDKK1150
120	102	43	112	116	3	22.5	10.25	10	DDKK1200
125	103	53	115	121	4	26.5	13.25	10	DDKK1250
130	108	53	120	126	4	26.5	13.25	10	DDKK1300
140	118	53	130	136	4	26.5	13.25	10	DDKK1400
150	128	53	140	146	4	26.5	13.25	10	DDKK1500
160	138	53	150	156	4	26.5	13.25	10	DDKK1600
165	143	57	155	161	6	26.5	15.25	10	DDKK1650
170	148	57	160	166	6	26.5	15.25	10	DDKK1700
180	158	57	170	176	6	26.5	15.25	10	DDKK1800
190	165	64	180	186	4.5	31.5	16.25	10	DDKK1900
195	170	64	185	191	4.5	31.5	16.25	10	DDKK1950
200	175	64	190	196	4.5	31.5	16.25	10	DDKK2000
210	185	71	200	206	8	31.5	19.75	12	DDKK2100
220	195	71	210	216	8	31.5	19.75	12	DDKK2200
225	200	71	215	221	8	31.5	19.75	12	DDKK2250
230	205	85	220	226	15	31.5	26.75	12	DDKK2300
240	215	85	230	236	15	31.5	26.75	12	DDKK2400
250	225	85	240	246	15	31.5	26.75	12	DDKK2500
255	230	85	245	251	15	31.5	26.75	12	DDKK2550
270	245	85	260	266	15	31.5	26.75	12	DDKK2700
275	250	85	265	271	15	31.5	26.75	12	DDKK2750
280	255	85	270	276	15	31.5	26.75	12	DDKK2800
290	265	85	280	286	15	31.5	26.75	12	DDKK2900
300	275	85	290	296	15	31.5	26.75	12	DDKK3000
310	280	80	298	304	8.5	36.5	21.75	15	DDKK3100
320	290	80	308	314	8.5	36.5	21.75	15	DDKK3200
330	300	80	318	324	8.5	36.5	21.75	15	DDKK3300
340	310	80	328	334	8.5	36.5	21.75	15	DDKK3400
350	320	80	338	344	8.5	36.5	21.75	15	DDKK3500
360	330	80	348	354	8.5	36.5	21.75	15	DDKK3600
380	350	80	368	374	8.5	36.5	21.75	15	DDKK3800
400	370	80	388	394	8.5	36.5	21.75	15	DDKK4000
420	390	80	408	414	8.5	36.5	21.75	15	DDKK4200
450	420	80	438	444	8.5	36.5	21.75	15	DDKK4500



1. Application and properties

Suitable for one-way and reciprocating piston seal. It has good sealing performance at high, medium and low pressures, especially suitable for low pressure and low temperature conditions. The work pressure adaptation range is wide, and the pressure resistance can be enhanced by adding back-up rings.

The friction coefficient is small, the contact pressure with the matching surface is low, and the frictional force is small during operation, can work with or without lubrication. It has wear-resistant and has a long service life. The working medium of the sealing sleeve is widely adaptable, and other chemicals do not react with it except soluble alkali metal, high temperature fluorine gas and chlorine trifluoride.

Operating temperature range from -200°C to $+250^{\circ}\text{C}$, and it can be used for special working conditions such as extremely high speed, extremely low speed, and micro-stroke

Suitable for aviation, military and industrial sealing groove size. Small installation groove and the groove is open or semi-open.

Flexible size change, wide adaptability, can be designed for any size of the installation groove of the seal, non-standard part design is very convenient.

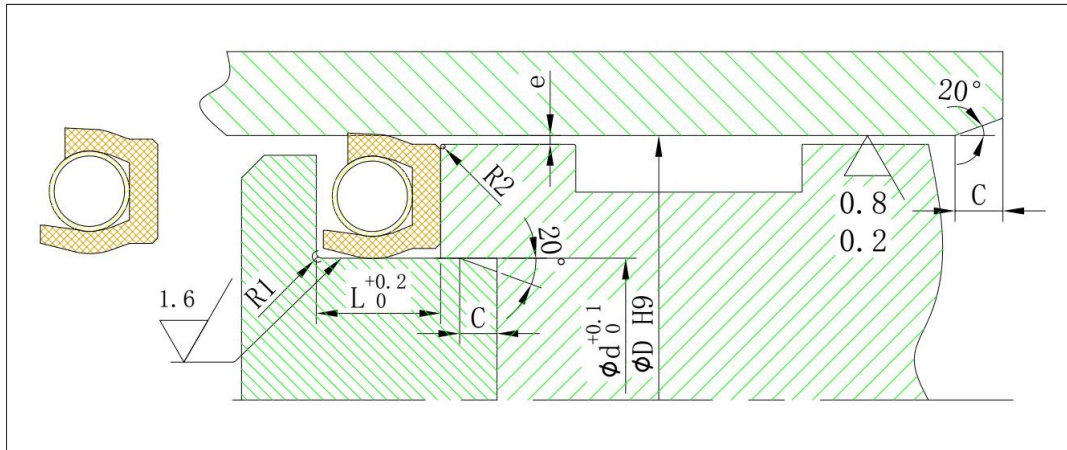
2. Standard material

Sealing ring: filled PTFE

Spring: SUS301, 302, 304, 316 or 718 Default use SUS301, please specify if there are special requirement/103A

3. Working Conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
2 ~ 2000mm	0 ~ 80MPa	$-200 \sim 250^{\circ}\text{C}$	0.5m/s	High and low temperature oil and water vapor and other fluids



4. Related Dimensions

$R1=0.2 \sim 0.5$; $R2=0.1 \sim 0.2$; $C=(0.5 \sim 0.7)L$; The specific values are selected according to the section size of the seal.

The remaining values are listed in the table below:

Bore Dia.	Groove Width	Groove Dia.	Radial Clearance e
D	L	d	e
5 ~ 13	2.5	D-3.0	0.05
13 ~ 26	3.2	D-4.0	0.065
26 ~ 58	4.7	D-6.0	0.075
58 ~ 165	7.5	D-10.0	0.09
165 ~ 1000	11.0	D-15.0	0.10

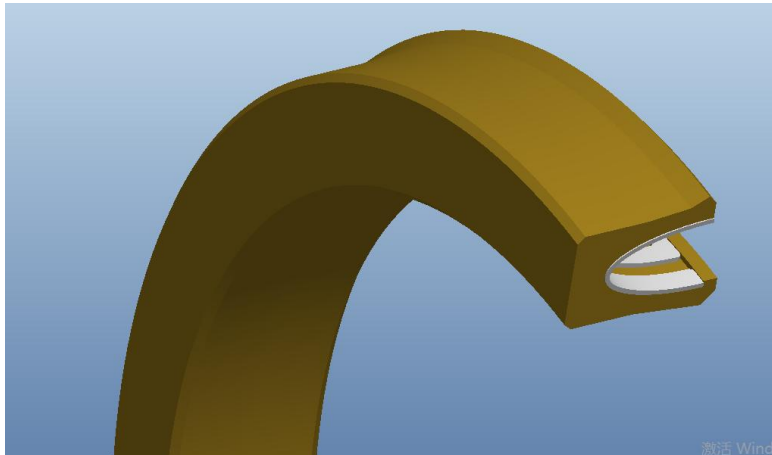
5. Marking method

Mark with the dimension of installation groove as below:

FSK "Bore Diameter D"×" Groove Diameter d"×" Groove Width L" – "Spring Material"O,

For example, FSK100×90×7.5-316O means FSK-O seal groove dimension: Bore Dia. 100, Groove Dia.90, Groove width7.5, Spring material SUS316, O-shape

FSK-V



1. Application and properties

Suitable for one-way and reciprocating piston seal. It has good sealing performance at high, medium and low pressure. The work pressure adaptation range is wide, and the pressure resistance can be enhanced by adding back-up rings.

The friction coefficient is small, and the contact pressure with the mating surface is low. The friction force with the mating surface is the smallest in all types of seals. It can work with or without lubrication, has good wear resistance, and long service life. The working medium of the sealing sleeve is widely adaptable, and other chemicals do not react with it except soluble alkali metal, high temperature fluorine gas and chlorine trifluoride.

Operating temperature range from -200°C to $+250^{\circ}\text{C}$, and it is used for special working conditions such as high speed, extremely low speed, and micro-stroke

Suitable for aviation, military and industrial sealing groove size. Small installation groove and the groove is open or semi-open. The standard product section size is small, and can be installed in the same level O-ring groove.

Flexible size change, wide adaptability, can be designed for any size of the installation groove of the seal, non-standard part design is very convenient.

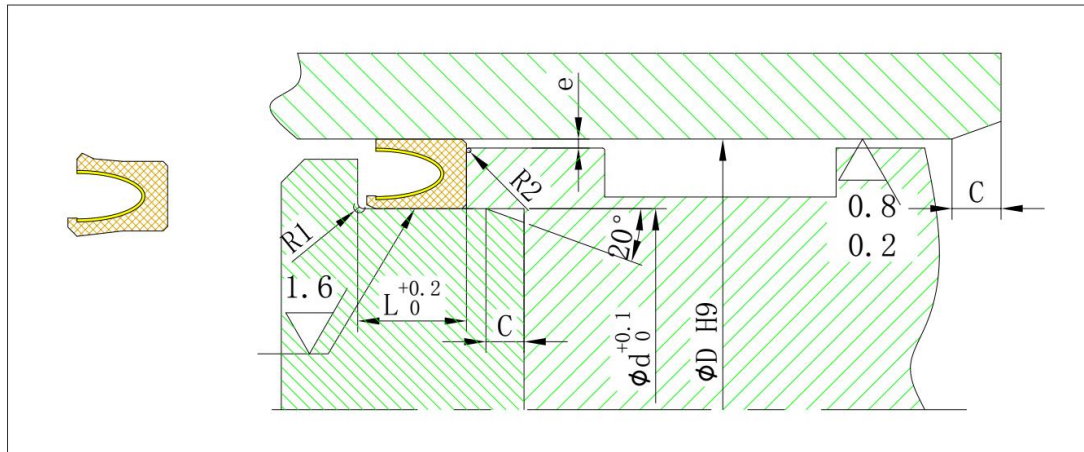
2. Standard material

Sealing ring: filled PTFE

Spring: SUS301, 302, 304, 316 or 718 Default use SUS301, please specify if there are special requirement/400A

3. Working Conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
2 ~ 2000mm	0 ~ 80MPa	-200 ~ 250 $^{\circ}\text{C}$	5m/s	High and low temperature oil and water vapor and other fluids



4. Related Dimensions

$R1=0.3 \sim 0.5$; $R2=0.1 \sim 0.2$; $C=(0.5 \sim 0.7)L$; The specific values are selected according to the section size of the seal.

The remaining values are listed in the table below:

Bore Dia.	Groove Width	Groove Dia.	Radial Clearance e
D	L	d	e
5 ~ 13	2.5	D-3.0	0.050
13 ~ 26	3.2	D-4.0	0.065
26 ~ 58	4.7	D-6.0	0.075
58 ~ 165	7.5	D-10.0	0.090
165 ~ 1000	11.0	D-15.0	0.100

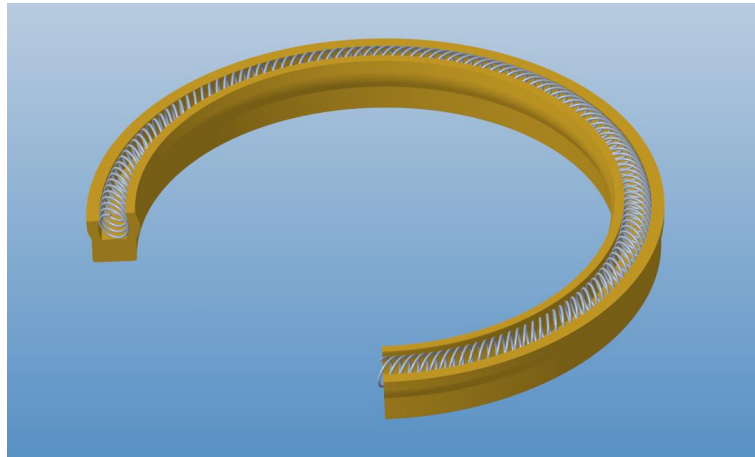
5. Marking method

Mark with the dimension of installation groove as below:

FSK "Bore Diameter D"×" Groove Bottom Diameter d"×" Groove Width L"-"Spring Material"V,

For example, FSK100×90×7.5-304V means FSK-V seal groove dimension: Bore Dia. 100, Groove Dia.90, Groove width7.5, Spring material SUS304, V-shape

FSK-X



1. Application and properties

Suitable for one-way and reciprocating piston seal. It has good sealing performance at high, medium and low pressures. The work pressure adaptation range is wide, and the pressure resistance can be enhanced by adding back-up rings.

The friction coefficient is small, the contact pressure with the matching surface is low, and the frictional force is small during operation, can work with or without lubrication. It has wear-resistant and has a long service life. The working medium of the sealing sleeve is widely adaptable, and other chemicals do not react with it except soluble alkali metal, high temperature fluorine gas and chlorine trifluoride.

Operating temperature range from -200°C to $+250^{\circ}\text{C}$, and it is used for special working conditions such as extremely high speed, extremely low speed, and micro-stroke.

Suitable for aviation, military and industrial sealing groove size. Small installation groove and the groove is open or semi-open. Flexible size change, wide adaptability, can be designed for any size of the installation groove of the seal, non-standard part design is very convenient.

2. Standard material

Sealing ring: filled PTFE

Spring: SUS301, 302, 304, 316 or 718 Default use SUS301, please specify if there are special requirement /APS

3. Working Conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
2 ~ 2000mm	0 ~ 80MPa	$-200 \sim 250^{\circ}\text{C}$	15m/s	High and low temperature oil and water vapor and other fluids



D

D

D

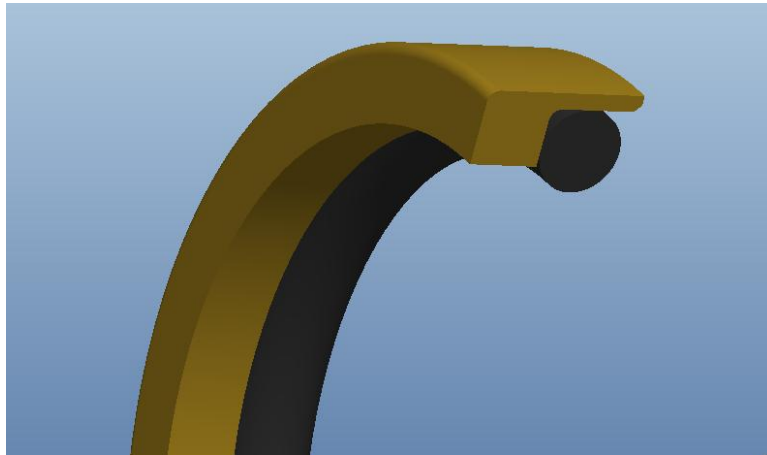
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D



D

1. Application and properties

Suitable for one-way and reciprocating piston seal, it has good sealing performance at high, medium and low pressures. The working pressure range is wide, and it can be used for high pressure and ultra-high pressure sealing. It can be installed in series in the same direction to increase the pressure-bearing capacity.

The friction coefficient is small, and it can work with or without lubrication, wear-resistant, and long service life. The working medium of the sealing sleeve is widely adaptable, and other chemicals do not react with it except soluble alkali metal, high temperature fluorine gas and chlorine trifluoride.

Operating temperature range from -30°C to $+160^{\circ}\text{C}$ (depending on the O-ring). It can be used in special working conditions such as extremely high speed, extremely low speed, and micro-stroke.

It is suitable for aerospace, military, and industrial sealing groove sizes, and the groove is open. The biggest feature is that it has the smallest leakage among similar seals and has a long service life.

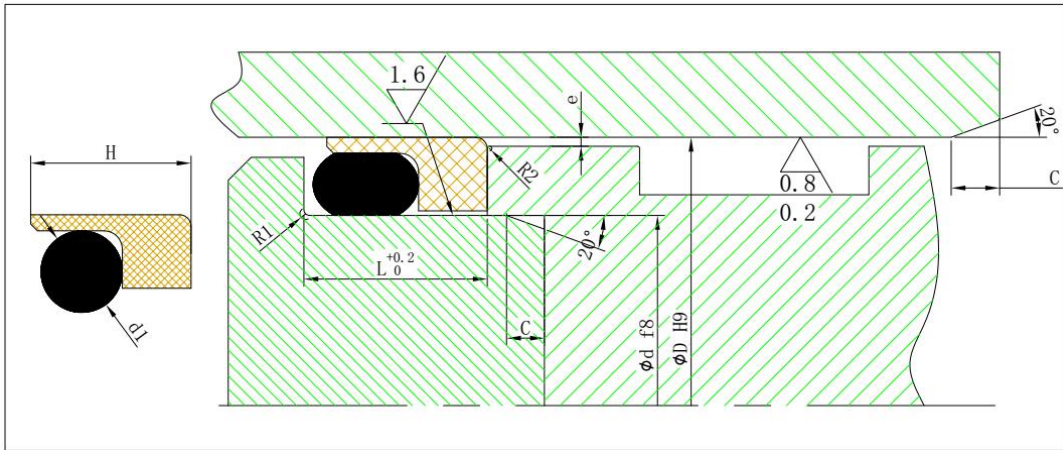
2. Standard material

Sealing ring: filled PTFE

O-Ring: NBR/FKM

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
5-2000mm	0 ~ 60MPa	-30 ~ 100(NBR) -20 ~ 160(FKM)	1.5m/s	High and low temperature oil and water vapor and other fluids



D

$R1=0.5-1.5$; $R2=0.1 \sim 0.2$; $C=(0.5 \sim 1.0)L$; The specific values are selected according to the section size of the seal.

The remaining values are listed in the table below:

Bore Dia. D			Groove Dia.	Groove Width	Radial Clearance e		O-Ring Cross Seciton
Standard Application	Light Application	Heavy Duty Application	d	L	<20MPa	<60MPa	d1
8 ~ 12.9	13 ~ 23.9	-	D-3.7	4.7	0.20	0.15	1.80
13 ~ 23.9	24 ~ 49.9	8 ~ 12.9	D-5.4	6.1	0.25	0.15	2.65
24 ~ 49.9	50 ~ 119.9	13 ~ 23.9	D-7.1	7.6	0.25	0.20	3.55
50 ~ 119.9	120 ~ 629.9	24 ~ 49.9	D-10.8	10.5	0.30	0.20	5.30
120 ~ 629.9	630 ~ 999	50 ~ 119.9	D-14.3	13.6	0.35	0.25	6.99
630 ~ 1000	-	120 ~ 629.9	D-17.2	15.5	0.50	0.30	8.60
-	-	630 ~ 1000	D-20.0	18.6	0.60	0.40	10.0

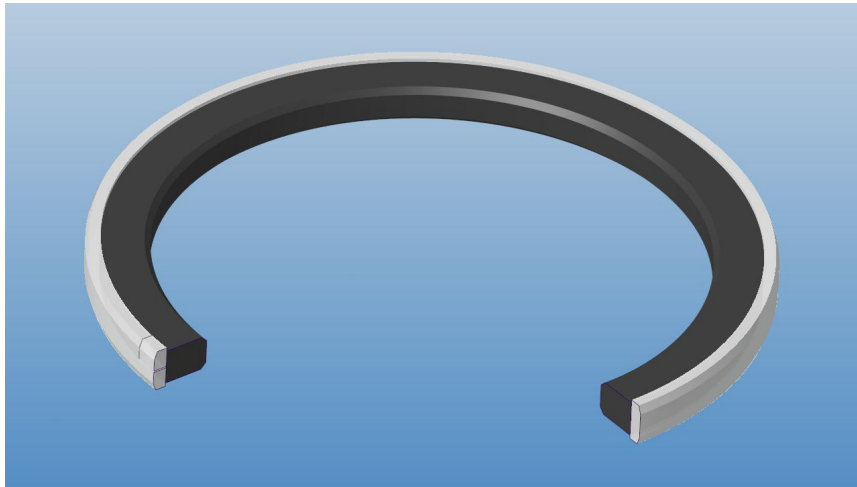
5. Marking method

Mark it with the dimension of installation groove as below:

DSJK "Bore Diameter D" × "Groove Diameter d" × "Groove Width L"

For example, DSJK100×89.2×10.5 means DSJK seal groove dimension: Bore Dia. 100, Groove Dia.89.2, Groove width10.5

HPT



D

1. Application and properties

It consists of a sliding ring with an open Z-shaped mouth and a square rubber elastomer.

Suitable for two-way and reciprocating piston seal, it has a wide range of adaptability to working pressure, and has good sealing performance at high, medium and low pressures. It is particularly suitable for heavy-duty hydraulic cylinders and can be used for high-pressure and ultra-high-pressure cylinders.

The cross-section is small, and the groove size for installation is small.

The friction coefficients during startup and operation are small, and the hydraulic cylinder runs smoothly.

The sliding ring has an opening, which is easy to install and does not require special installation tools.

Good wear resistance, high pressure resistance, strong anti-extrusion ability and good impact resistance.

2. Standard material

Slip ring: TPR

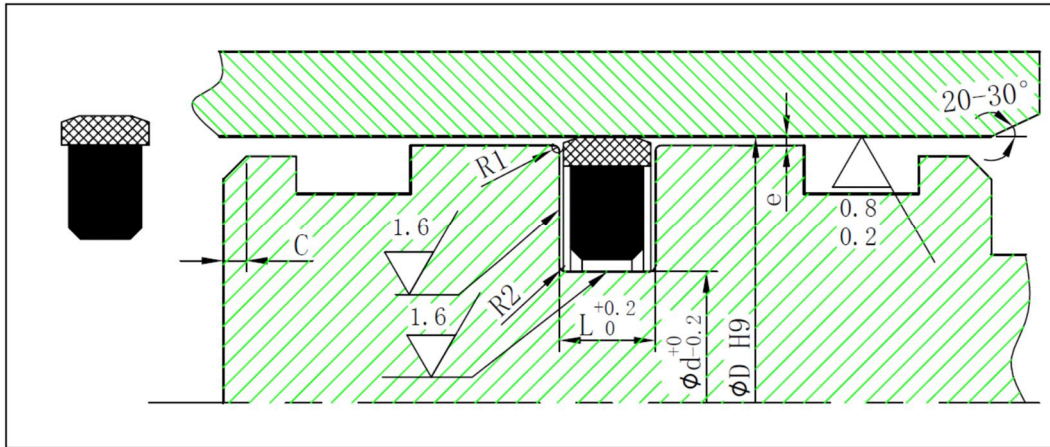
Elastomer: NBR

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
40-500mm	0 ~ 80MPa	-30 ~ 110	1.0m/s	hydraulic oil

4. Related Dimensions

$R1=0.2-0.5$; $R2=0.3 \sim 0.5$; $C=(0.5 \sim 1.0)L$; The specific value is selected according to the size of the section of the seal, and the remaining values are listed in the Installation Dimensions table.



5. Marking method

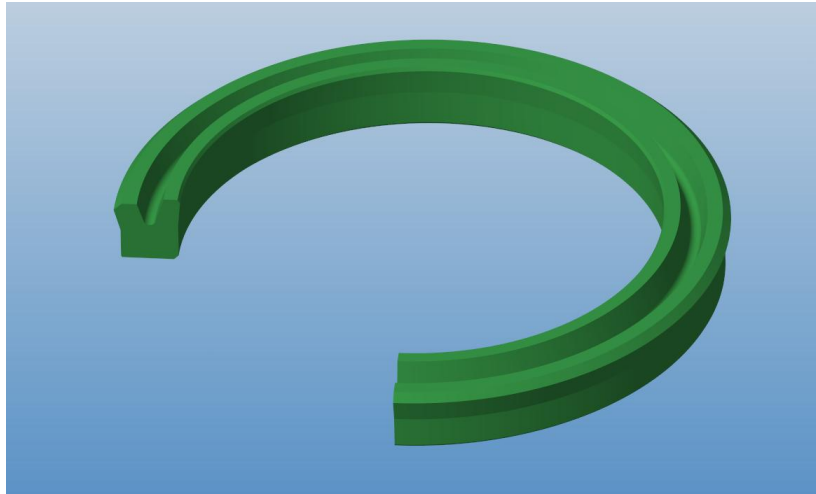
Mark it with the dimension of installation groove as below:

HPT "Bore Diameter D" × "Groove Diameter d" × "Groove Width L"

For example, HPT100×79×8 means HPT seal groove dimension: Bore Dia. 100, Groove Dia.79, Groove width 8

6. Installation Dimensions

Bore Dia.	Groove Dia.	Groove Width	Radial Clearance e	Bore Dia.	Groove Dia.	Groove Width	Radial Clearance e
D	d	L	e	D	d	L	e
40	29	4.2	0.35	115	94	8	0.6
45	34	4.2	0.35	120	99	8	0.6
50	39	4.2	0.35	125	104	8	0.6
60	49	4.2	0.35	130	109	8	0.6
55	39.5	6.3	0.5	135	114	8	0.6
63	47.5	6.3	0.5	140	119	8	0.6
70	54.5	6.3	0.5	145	124	8	0.6
75	59.5	6.3	0.5	150	129	8	0.6
80	64.5	6.3	0.5	160	139	8	0.6
90	74.5	6.3	0.5	165	144	8	0.6
100	84.5	6.3	0.5	170	149	8	0.6
63	44.7	7	0.4	175	154	8	0.6
75	54	8	0.4	180	159	8	0.6
80	59	8	0.5	185	164	8	0.6
85	64	8	0.5	190	169	8	0.6
90	69	8	0.5	195	174	8	0.6
95	74	8	0.5	220	199	8	0.8
100	89	4.2	0.35	230	209	8	0.8
100	79	8	0.6	250	229	8	0.8
105	84	8	0.6	260	239	8	0.8
110	89	8	0.6				



D

1. Application and properties

It is suitable for one-way and reciprocating piston seal, and has good sealing performance at high, medium and low pressures, with almost no leakage under normal conditions.

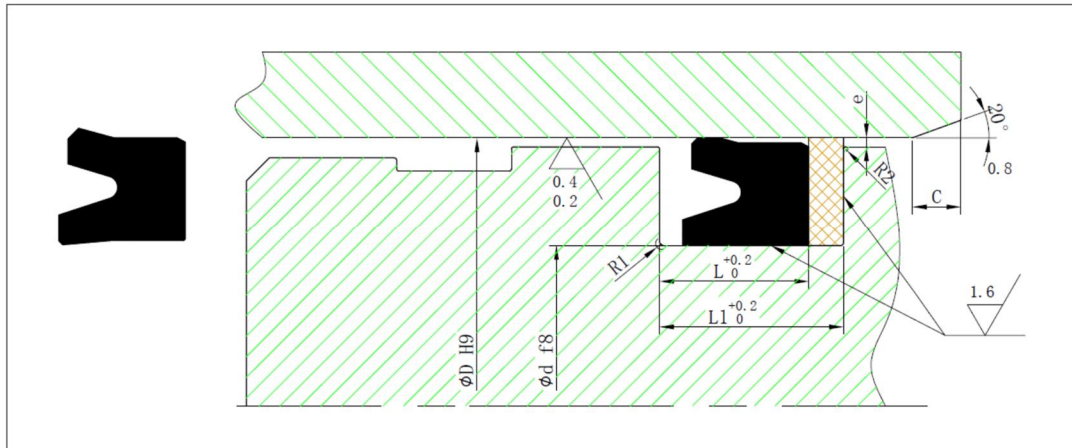
Good extrusion resistance, small compression deformation, impact resistance, easy installation, and good wear resistance. The groove is closed and easy to install. The biggest feature is small leakage.

2. Standard material

NBR / FKM / PU

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
18 ~ 500mm	0 ~ 40MPa	-35 ~ 110°C	0.5m/s	hydraulic oil



4. Related Dimensions

$R1=0.2 \sim 0.5$; $R2=0.1 \sim 0.2$; $e=0.1 \sim 0.3$; $C=(0.7 \sim 1.0)L$; The specific value is selected according to the size of the section of the seal, and the remaining values are listed in the Installation Dimensions table.

5. Marking method

Mark it with the dimension of installation groove as below:

UKH "Bore Diameter D" × "Groove Diameter d" × "Groove Width L"

For example: UKH100×80×13 means UKH seal groove dimension: Bore Dia. 100, Groove Dia.80, Groove width13
(If the back-up ring is added, the actual groove width is 16)

6. Installation Dimensions

Bore Dia.	Groove Dia.	Groove Width	Groove Width adding back-up ring
D	d	L	L1
18	7.5	8.5	10.5
20	10	7	9
20	10	9	11
20	12	5.7	7.7
22	14	5.7	7.7
25	15	7	9
25	15	9	11
26	16	8.5	10.5
28	15	11	13
28	20	5.7	7.7
30	20	5.7	7.7
30	20	9	11
31	18	11	13
33	20	11	13

Bore Dia.	Groove Dia.	Groove Width	Groove Width adding back-up ring
D	d	L	L1
35	22	11	13
35	25	7	9
35	25	9	11
38	25	11	13
40	25	10	12
40	27	9	12
40	30	9	12
41	28	11	14
45	30	10	13
45	30	11	14
45	35	9	12
50	34	11	14
50	35	10	13
50	35	13	16

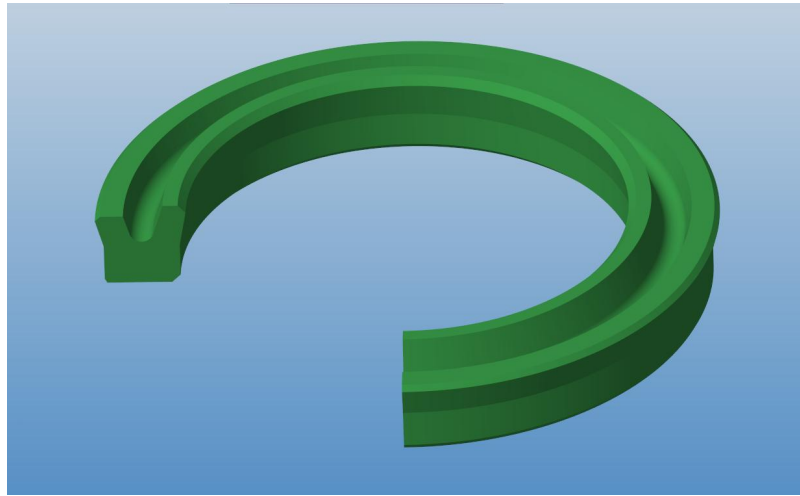
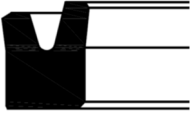
UKH



Bore Dia.	Groove Dia.	Groove Width	Groove Width adding back-up ring
D	d	L	L1
50	40	9	12
55	40	10	13
55	40	9	12
56	40	11	14
56	40	13	16
56	46	9	12
60	45	10	13
60	50	9	12
63	47	11	14
63	53	9	12
65	50	10	13
65	50	11	14
65	55	9	12
70	50	13	16
70	55	10	13
70	60	9	12
71	51	13	16
71	55	11	14
71	56	10	13
71	61	9	12
75	55	13	16
75	60	10	13
75	65	9	12
80	60	13	16
80	64	11	14
80	70	9	12
85	65	13	16
85	75	9	12
90	70	13	16
90	75	10	13
90	80	9	12
95	75	13	16
95	80	10	13
100	80	13	16
100	80	16	19
105	85	16	19
110	90	13	16
110	95	11	14
115	95	16	19
120	100	13	16
120	105	11	14
125	105	13	16
125	110	11	14
130	110	13	16
130	115	11	14
140	120	13	16

Bore Dia.	Groove Dia.	Groove Width	Groove Width adding back-up ring
D	d	L	L1
140	120	17	20
140	125	11	14
150	125	20	23
150	130	13	16
150	135	11	14
160	135	20	23
160	140	13	16
160	145	11	14
165	140	20	23
165	140	21	24
170	145	20	23
170	150	13	16
170	155	11	15
180	155	17	21
180	155	21	25
180	160	17	21
180	165	11	15
185	160	20	24
190	165	17	21
190	170	13	17
190	175	11	15
200	175	17	21
200	180	17	21
210	185	17	21
210	190	17	21
220	195	17	21
220	200	17	21
225	200	17	21
220	205	17	21
230	205	17	21
230	205	21	24
230	210	17	21
240	215	17	21
240	220	17	21
250	225	17	21
250	225	21	25
250	230	17	21
260	235	17	21
260	240	17	21
270	245	17	21
270	250	17	21
280	250	20	24
290	260	20	24
300	270	20	24
300	270	26	30
300	275	20	24

D



1. Application and properties

Suitable for one-way and reciprocating piston seal, and it has good sealing performance at medium and low pressures with almost no leakage under normal conditions.

It has a smaller cross-section, smaller groove size for installation, and lower friction coefficient with the cylinder barrel.

Good impact resistance and wear resistance.

The grooves are closed for easy installation. Mainly used in the work of the internal leakage requirements, and the speed of the piston movement is not particularly high in the low pressure cylinder.

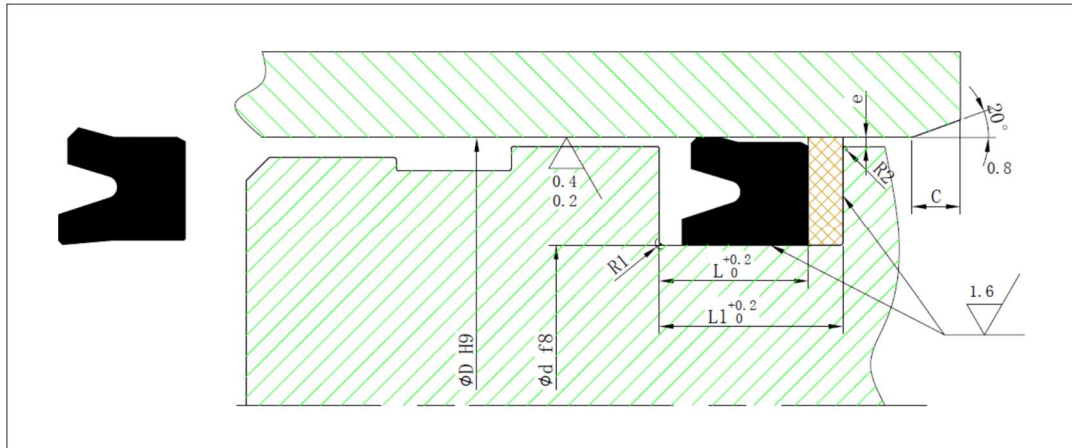
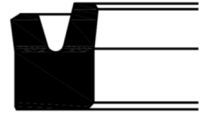
2. Standard material

NBR/FKM/PU

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
35 ~ 500mm	0 ~ 20MPa	-35 ~ 110°C	0.5m/s	hydraulic oil

UKL



4. Related Dimensions

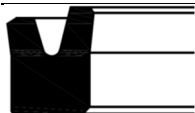
$R1=0.2 \sim 0.5$, $R2=0.1 \sim 0.2$, $e=0.1 \sim 0.3$, $C=(0.7 \sim 1.0)L$; The specific value is selected according to the size of the section of the seal, and the remaining values are listed in the Installation Dimensions table.

5. Marking method

Mark it with the dimension of installation groove as below:

UKL "Bore Diameter D" × "Groove Diameter d" × "Groove Width L"

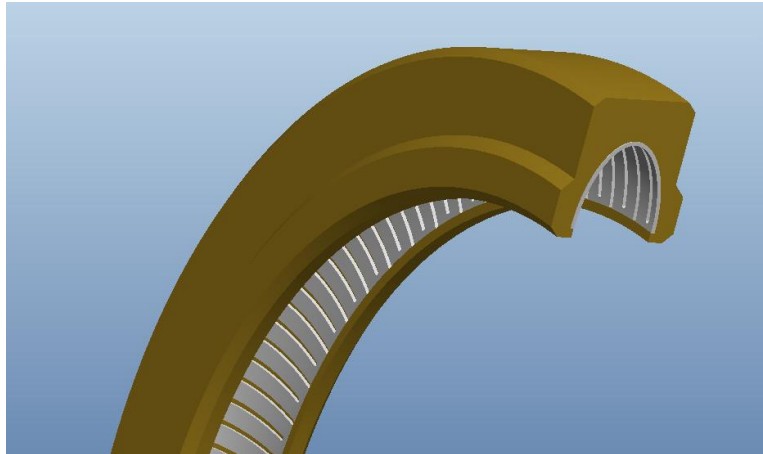
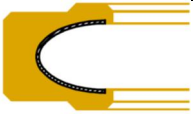
For example, UKL100×85×10 means UKL seal groove dimension: Bore Dia. 100, Groove Dia.85, Groove width 10



6. Installation Dimensions

Bore Dia.	Groove Dia.	Groove Width	Import Length		Bore Dia.	Groove Dia.	Groove Width	Import Length
D	d	L	C		D	d	L	C
35	27	5.7	2		115	100	10	4
35.5	27.5	5.7	2		120	105	10	4
35.5	28	5.7	2		120	106	9.5	4
40	30	7	2.5		125	112	9.5	4
41.5	31.5	7	2.5		125	112	10	4
45	35	7	2.5		130	115	10	4
45	35.5	7	2.5		140	125	10	4
50	40	7	2.5		145	130	10	4
55	45	7	2.5		150	135	10	4
56	45	8	2.5		150	136	9.5	4
56	46	7	2.5		155	140	10	4
60	50	7	2.5		160	145	10	4
63	53	7	2.5		170	155	10	4
65	55	7	2.5		175	160	10	4
66	56	7	2.5		180	165	10	4
70	60	7	2.5		190	175	10	4
71	60	8	2.5		200	180	13	4
71	61	7	2.5		210	190	13	4
73	63	7	2.5		220	200	13	5
75	65	7	2.5		224	204	13	5
77	67	7	2.5		225	205	13	5
80	70	7	2.5		230	210	13	5
80	71	7	2.5		240	220	13	5
85	75	7	2.5		250	230	13	5
90	80	7	2.5		260	240	13	5
100	85	10	4		270	250	13	5
105	90	10	4		280	255	17	6.5
110	95	10	4		290	265	17	6.5
112	98	9.5	4		300	275	17	6.5

End Face Spring Seals



1. Application and properties

Suitable for end face static seal or rotary seal, preventing pressure fluid leakage from inside out, and providing good sealing performance under medium and high pressure.

Low friction coefficient, low contact pressure with the mating surface, and the friction with the mating surface is the smallest among all types of seals. It can work with or without lubrication. It has good wear resistance and a long service life. The working medium of the sealing sleeve is widely adaptable, and other chemicals do not react with it except soluble alkali metal, high temperature fluorine gas and chlorine trifluoride.

Operating temperature range from -200°C to $+250^{\circ}\text{C}$. It is suitable for special working conditions such as extremely high speed, extremely low speed, etc.

Suitable for aerospace, military, and industrial sealing groove sizes. The standard installation groove is the same as the standard O-ring installation groove, and the size is small. It can also be designed as a non-standard component to meet the sealing requirements of any size of groove. The groove can be open or semi-open.

It can adapt to large eccentricity and end face runout (at low speed).

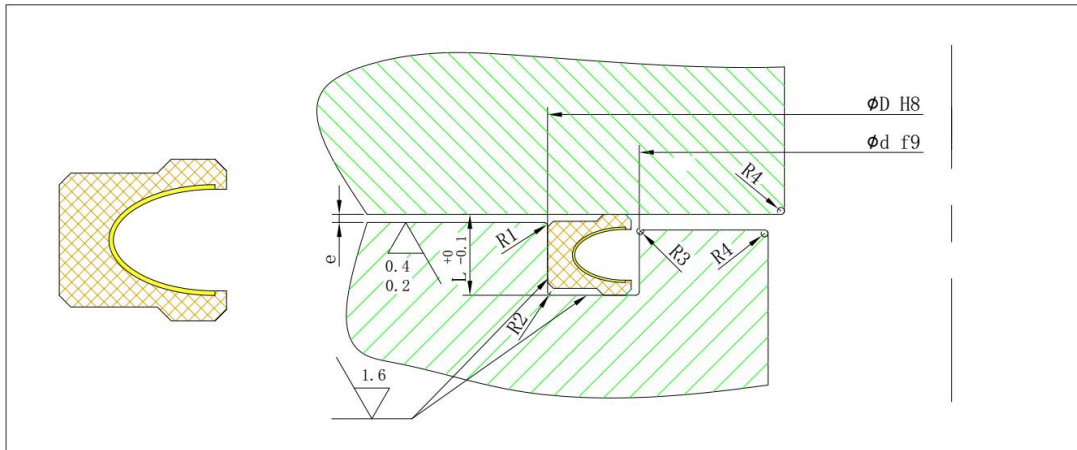
2. Standard material

Sealing ring: filled PTFE

Spring: SUS301, 302, 304, 316 or 718 Default use SUS301, please specify if there are special requirement/400A

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
9 ~ 2000mm	0 ~ 80MPa	$-200 \sim 250^{\circ}\text{C}$	5m/s	High and low temperature oil and water vapor and other fluids



4. Related Dimensions

$R1=0.1 \sim 0.2$; $R2=0.3 \sim 0.5$; $R3=0.3 \sim 1.5$; $R4=0.5 \sim 5$; $e=0.05 \sim 0.15$, The specific value is selected according to the section size and pressure value of the seal, The remaining values are listed in the table below:

Groove Inner Dia.	Groove Outer Dia.	Groove Depth
d	D	L
4~7.5	d+5	1.4
7.5~26	d+6.4	1.8
26~56	d+9.4	2.7
56~160	d+15	4.6
160~500	d+22	6.9

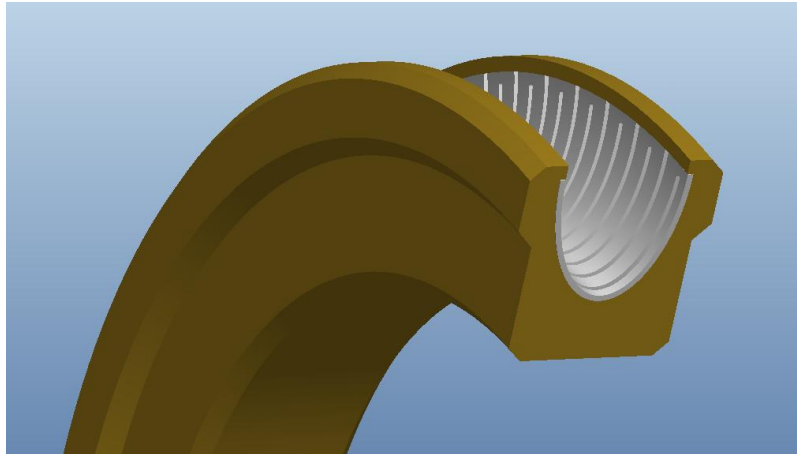
5. Marking method

Mark with the dimension of installation groove as below:

FSVI "Groove Outer Dia. D" × "Groove Inner Dia. d" × "Groove Depth L" - "Spring Material" V,

For example, FSVI100×85×4.6-304V means FSVI-V groove dimensions: $\phi 100 \times \phi 85 \times 4.6$, Spring material SUS304, V-shape

o



1. Application and properties

Suitable for end face static seal or rotary seal, preventing pressure fluid leakage from inside out, and providing good sealing performance under medium and high pressure

Low friction coefficient, low contact pressure with the mating surface, and the friction with the mating surface is the smallest among all types of seals. It can work with or without lubrication, It has good wear resistance and a long service life. The working medium of the sealing sleeve is widely adaptable, and other chemicals do not react with it except soluble alkali metal, high temperature fluorine gas and chlorine trifluoride.

Operating temperature range from -200°C to $+250^{\circ}\text{C}$. It is suitable for special working conditions such as extremely high speed, extremely low speed, etc.

It is suitable for aerospace, military, and industrial sealing groove sizes. The standard installation groove is the same as the standard O-ring installation groove, and the size is small. It can also be designed as a non-standard component to meet the sealing requirements of any size of groove, and the groove can be open or semi-open.

It can adapt to large eccentricity and end face runout (at low speed).

2. Standard material

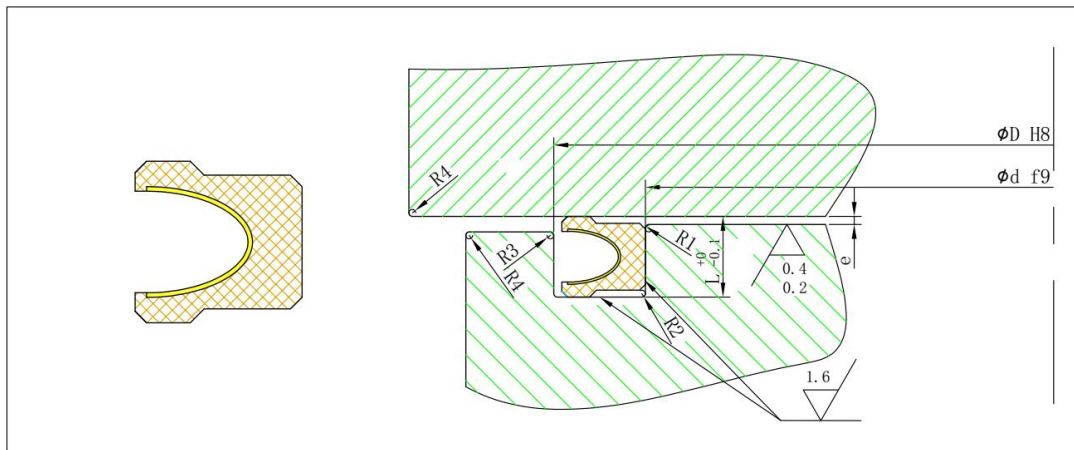
Sealing ring: filled PTFE

Spring: SUS301, 302, 304, 316 or 718 Default use SUS301, please specify if there are special requirement /400A

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
10 ~ 2000mm	0 ~ 80MPa	$-200 \sim 250^{\circ}\text{C}$	5m/s	High and low temperature oil and water gas and other fluids

FSVO-V



4. Related Dimensions

$R1=0.1 \sim 0.2$; $R2=0.3 \sim 0.5$; $R3=0.3 \sim 1.5$; $R4=0.5 \sim 5$; $e=0.05 \sim 0.15$ The specific value is selected according to the section size and pressure value of the seal, The remaining values are listed in the table below:

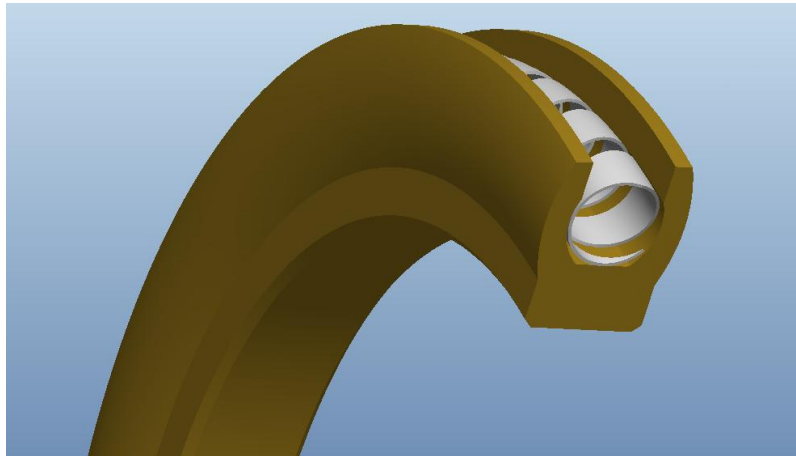
Groove Inner Dia.	Groove Outer Dia.	Groove Depth
d	D	L
4~7.5	d+5	1.4
7.5~26	d+6.4	1.8
26~56	d+9.4	2.7
56~160	d+15	4.6
160~500	d+22	6.9

5. Marking method

Mark it with the dimension of installation groove as below:

FSVO "Groove Outer Dia. D" × "Groove inner Dia. d" × "Groove Height L" - "Spring Material" V,

For example, FSVO100×90×4.7-316V means FSVO-V seal groove dimensions: $\phi 100 \times \phi 90 \times 4.7$, Spring material SUS316, V-shape



1. Application and properties

Suitable for end face static seal or low speed rotary seal, to prevent pressure fluid leakage from the outside, with good sealing performance in low, medium, and high pressure situations.

Low friction coefficient, low contact pressure with the mating surface, and the friction with the mating surface is the smallest among all types of seals. It can work with or without lubrication. It has good wear resistance and a long service life. The working medium of the sealing sleeve is widely adaptable, and other chemicals do not react with it except soluble alkali metal, high temperature fluorine gas and chlorine trifluoride

Operating temperature range from -200°C to $+250^{\circ}\text{C}$. It can be used in special working conditions such as extremely low speed.

Suitable for sealing groove sizes in aviation, military, and industrial applications. The standard installation groove is the same as the standard O-ring installation groove, and the size is small. It can also be designed as non-standard parts to meet the sealing requirements of any size groove. The groove can be open or semi-open.

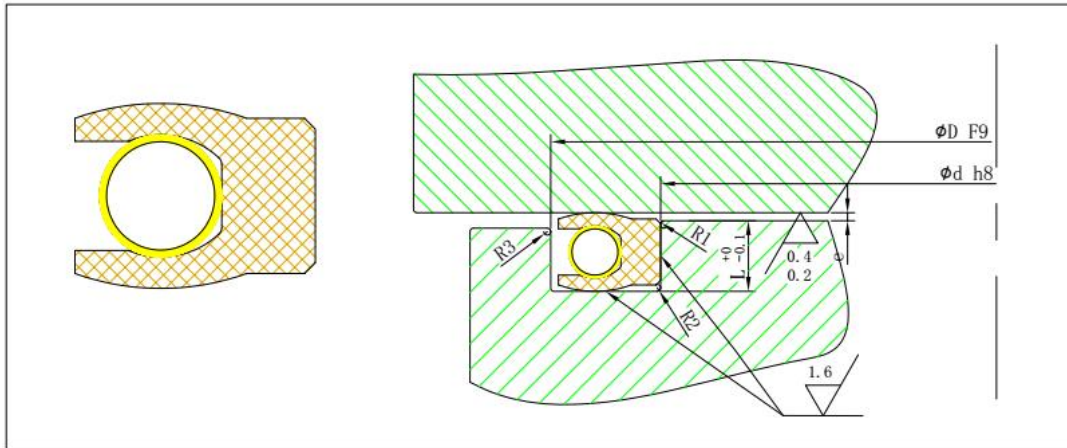
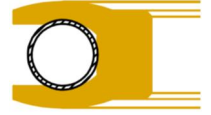
2. Standard material

Sealing ring: filled PTFE

Spring: SUS301, 302, 304, 316 or 718 Default use SUS301, please specify if there are special requirement/103A

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
3 ~ 2000mm	0 ~ 80MPa	$-200 \sim 250^{\circ}\text{C}$	0.5m/s	High and low temperature oil and gas water and other fluids



4. Related Dimensions

$R1=0.1 \sim 0.2$; $R2=0.3 \sim 0.5$; $R3=0.3 \sim 1.5$; $e=0.05 \sim 0.15$, The specific value is selected according to the section size and pressure value of the seal, The remaining values are listed in the table below:

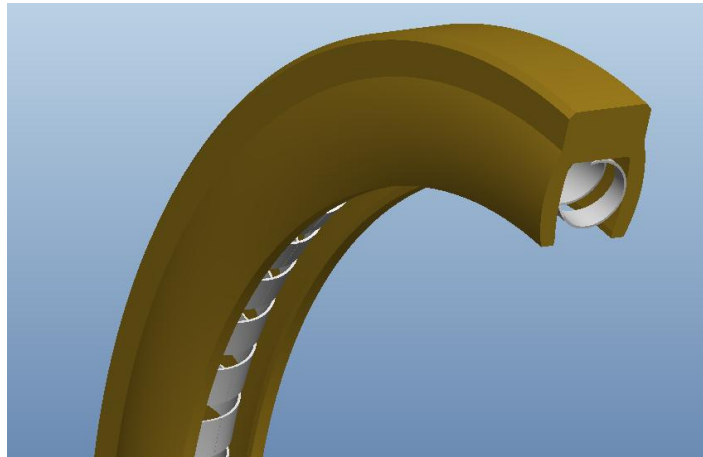
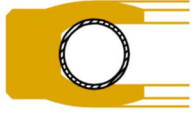
Groove Inner Dia.	Groove Outer Dia.	Groove Depth
d	D	L
4~7.5	d+5	1.4
7.5~26	d+6.4	1.8
26~56	d+9.4	2.7
56~160	d+15	4.6
160~500	d+22	6.9

5 . Marking method

Mark it with the dimension of installation groove as below:

FSVO "Groove inner Dia. d" × "Groove Outer Dia. D" × "Groove Height L" - "Spring Material" O,

For example, FSVO100×115×4.6-316O means FSVO-O seal groove dimensions: $\phi 100 \times \phi 115 \times 4.6$, Spring material SUS316, O-shape



1. Application and properties

Suitable for end face static seal or rotary seal, to prevent pressure fluid leakage from the inside, with good sealing performance in low, medium, and high pressure situations.

Low friction coefficient, low contact pressure with the mating surface, and the friction with the mating surface is the smallest among all types of seals. It can work with or without lubrication and it has good wear resistance and a long service life. The working medium of the sealing sleeve is widely adaptable, and other chemicals do not react with it except soluble alkali metal, high temperature fluorine gas and chlorine trifluoride.

Operating temperature range from -200°C to $+250^{\circ}\text{C}$. It can be used in special working conditions such as extremely low speed.

Suitable for sealing groove sizes in aviation, military, and industrial applications. The standard installation groove is the same as the standard O-ring installation groove, and the size is small. It can also be designed as non-standard parts to meet the sealing requirements of any size groove.

2. Standard material

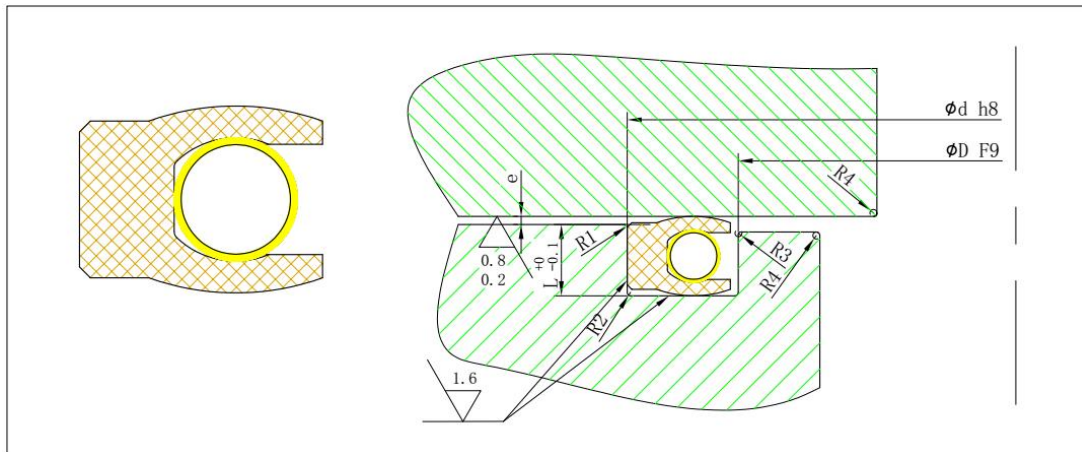
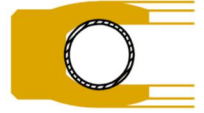
Sealing ring: filled PTFE

Spring: SUS301, 302, 304, 316 or 718 Default use SUS301, please specify if there are special requirement /103A

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
10 ~ 2000mm	0 ~ 80MPa	$-200 \sim 250^{\circ}\text{C}$	0.5m/s	High and low temperature oil and water vapor and other fluids

FSVI-O



4. Related Dimensions

$R1=0.1 \sim 0.2$; $R2=0.3 \sim 0.5$; $R3=0.3 \sim 1.5$; $R4=0.5 \sim 5$; $e=0.05 \sim 0.15$, The specific value is selected according to the section size and pressure value of the seal, The remaining values are listed in the table below:

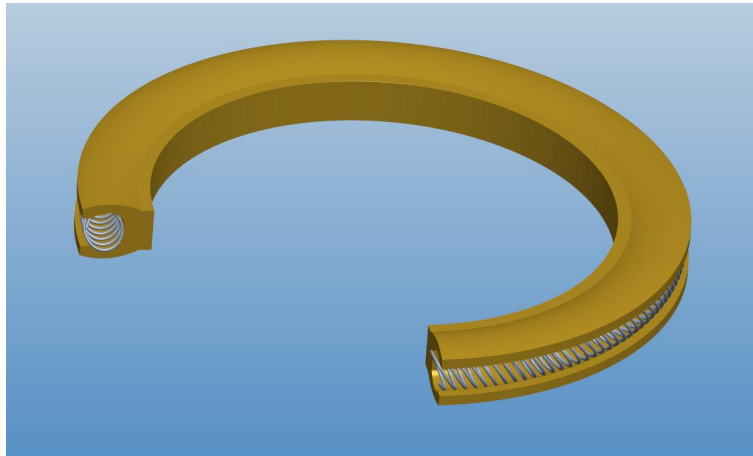
Groove Inner Dia.	Groove Outer Dia.	Groove Depth
d	D	L
4~7.5	d+5	1.4
7.5~26	d+6.4	1.8
26~56	d+9.4	2.7
56~160	d+15	4.6
160~500	d+22	6.9

5. Marking method

Mark with the dimension of installation groove as below:

FSVI "Groove Outer Dia. D" × "Groove inner Dia. d" × "Groove Height L" - "Spring Material" O,

For example, FSVI100×90×4.7-316O means FSVI-O seal groove dimensions: $\phi 100 \times \phi 90 \times 4.7$, Spring material SUS316, O-shape



1. Application and properties

Suitable for end face static seal or low speed rotary seal to prevent pressure fluid from leaking from the outside to the inside, with good sealing performance at low, medium and high pressures.

Low friction coefficient, low contact pressure with the mating surface, and the friction with the mating surface is very small. It can work with or without lubrication and it has good wear resistance and a long service life. The working medium of the sealing sleeve is widely adaptable, and other chemicals do not react with it except soluble alkali metal, high temperature fluorine gas and chlorine trifluoride.

Operating temperature range from -200°C to $+250^{\circ}\text{C}$. It can be used in special working conditions such as extremely high speed and extremely low speed.

It is suitable for sealing groove sizes in aviation, military and industrial fields. The standard installation groove is the same as the standard O-ring installation groove, with small size. It can also be designed as non-standard parts to meet the sealing requirements of any size groove. The groove is open or semi-open.

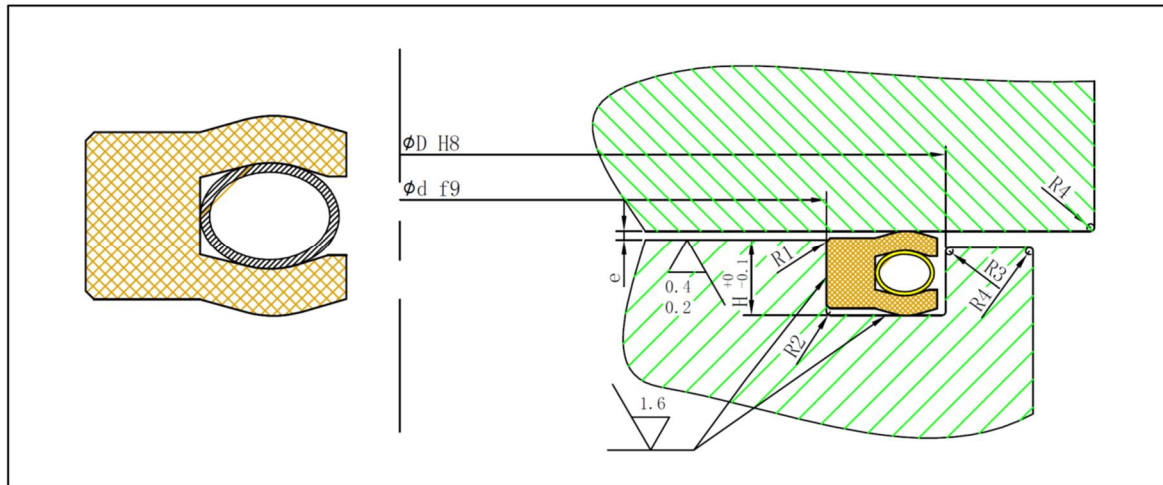
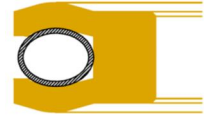
2. Standard material

Sealing ring: filled PTFE

Spring: SUS301, 302, 304, 316 or 718 Default use SUS301, please specify if there are special requirement/APS

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
3 ~ 2000mm	0 ~ 80MPa	-200 ~ 250 $^{\circ}\text{C}$	15m/s	High and low temperature oil, water ,gas and other fluids



4. Related Dimensions

$R1=0.1 \sim 0.2$; $R2=0.3 \sim 0.5$; $R3=0.3 \sim 1.5$; $e=0.05 \sim 0.15$, The specific value is selected according to the section size and pressure value of the seal, The remaining values are listed in the table

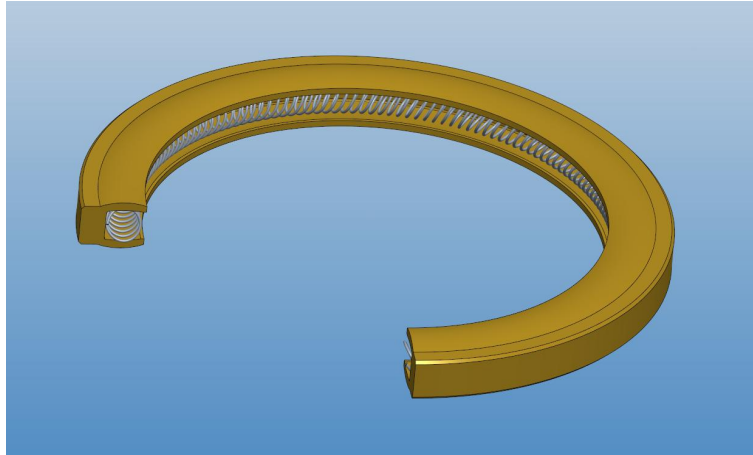
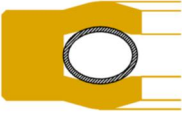
Groove Inner Dia.	Groove Outer Dia.	Groove Depth
d	D	L
4~7.5	d+5	1.4
7.5~26	d+6.4	1.8
26~56	d+9.4	2.7
56~160	d+15	4.6
160~500	d+22	6.9

5. Marking method

Mark it with the dimension of installation groove as below:

FSVO "Groove inner Dia. d" × "Groove Outer Dia. D" × "Groove Height L" - "Spring Material" X,

For example: FSVO100×115×4.6-316X means FSVO-X seal groove dimensions: $\phi 100 \times \phi 115 \times 4.6$, Spring material SUS316, oblique spiral-shape



1. Application and properties

Suitable for end face static sealing or rotary sealing to prevent pressure fluid from leaking from the outside to the inside, with good sealing performance at low, medium and high pressures.

Low friction coefficient, low contact pressure with the mating surface, and the friction with the mating surface is very small. It can work with or without lubrication, it has good wear resistance and a long service life. The working medium of the sealing sleeve is widely adaptable, and other chemicals do not react with it except soluble alkali metal, high temperature fluorine gas and chlorine trifluoride.

Operating temperature range from -200°C to $+250^{\circ}\text{C}$. It can be used in special working conditions such as extremely high speed and extremely low speed.

It is suitable for sealing groove sizes in aviation, military and industrial fields. The standard installation groove is the same as the standard O-ring installation groove, with small size. It can also be designed as non-standard parts to meet the sealing requirements of any size groove. The groove is open or semi-open.

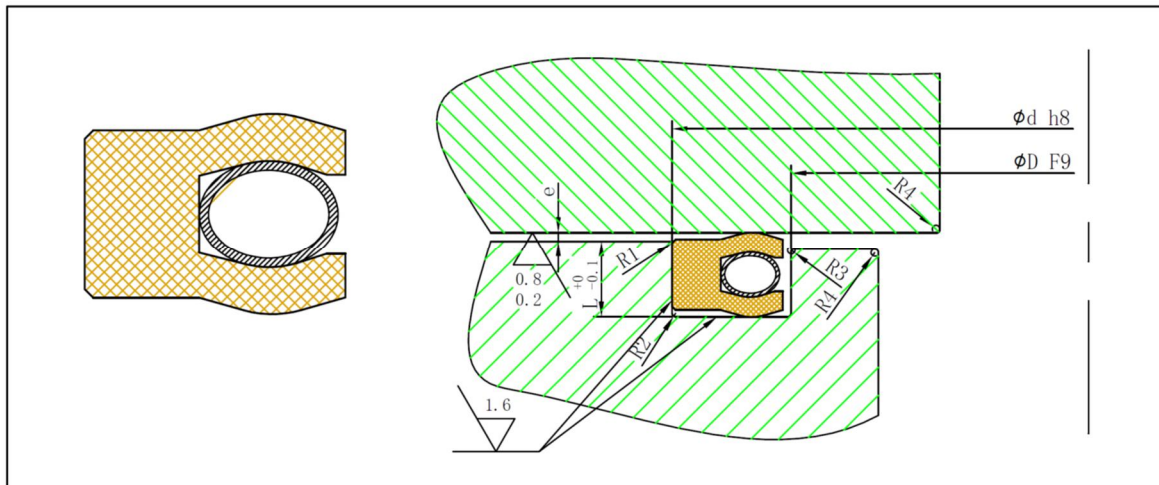
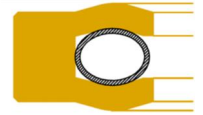
2. Standard material

Sealing ring: filled PTFE

Spring: SUS301, 302, 304, 316 or 718 Default use SUS301, please specify if there are special requirement/APS

3. Working conditions

Working Conditions				
Diameter Range	Pressure Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
3 ~ 2000mm	0 ~ 80MPa	$-200 \sim 250^{\circ}\text{C}$	15m/s	High and low temperature oil water ,gas and other fluids



4. Related Dimensions

$R1=0.1\sim0.2$; $R2=0.3\sim0.5$; $R3=0.3\sim1.5$; $e=0.05\sim0.15$, The specific value is selected according to the section size and pressure value of the seal, The remaining values are listed in the table

Groove Inner Dia.	Groove Outer Dia.	Groove Depth
d	D	L
4~7.5	d+5	1.4
7.5~26	d+6.4	1.8
26~56	d+9.4	2.7
56~160	d+15	4.6
160~500	d+22	6.9

5. Marking method

Mark it with the dimension of installation groove as below:

FSVI "Groove inner Dia. d" × "Groove Outer Dia. D" × "Groove Height L" - "Spring Material" X,

For example: FSVI100×115×4.6-316X means FSVI-X seal groove dimensions: $\phi 100 \times \phi 115 \times 4.6$, Spring material SUS316, oblique spiral-shape

Scraper Seals



1. Application and properties

Suitable for reciprocating oil and cylinder under harsh working conditions, mainly used in hydraulic and pneumatic devices, servo systems, chemical and food equipment. Excellent sliding performance, no stick-slip or crawling phenomenon, can compensate for large deformation of piston rod and plunger, very good compatibility with hydraulic media, effectively erase the remaining oil film adhering to the surface of the piston rod from the inside. Can remove stubborn stains, suitable for equipment working in particularly harsh environments such as mines, quarries, and cement plants.

Small groove size. Operating temperature range from -30°C to $+160^{\circ}\text{C}$.

Can be used for special working conditions such as extremely high speed, extremely low speed, micro-stroke, etc.

Main features:

- I . low friction coefficient, can work with or without lubrication;
- II . strong resistance to media;
- III . wear-resistant, long service life;
- IV . can be used in harsh working conditions

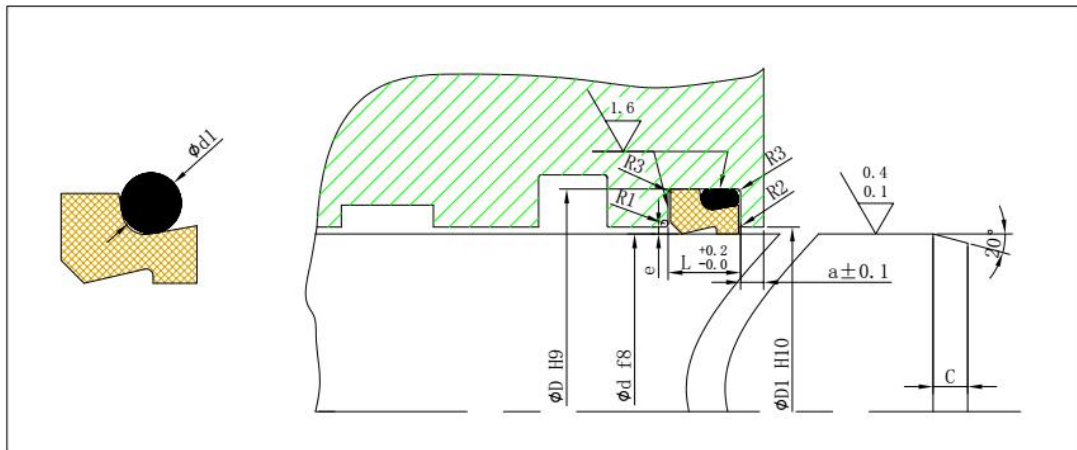
2. Standard material

Sealing ring: filled PTFE

O-Ring: NBR / FKM

3. Working conditions

Working conditions			
Diameter Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
5 ~ 2000mm	-30 ~ 100(NBR), -20 ~ 160(FKM)	5m/s	High and low temperature oil, water vapor and other fluids



4. Related Dimensions

$R1=0.2 \sim 0.3$; $R2=0.2$; $R3=0.3 \sim 0.5$; $e=0.05 \sim 0.5$; $C=(0.5 \sim 1.0)L$; The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

Rod Dia.	Groove Dia.	Groove Width	Groove Dia.-1	Rabbet Width	O-Ring Cross-Section
d	D	L	D1	a	d1
19.0 ~ 39.9	d+7.6	4.2	d+1.5	3.0	2.62
40.0 ~ 69.9	d+8.8	6.3	d+1.5	3.0	2.62
70.0 ~ 139.9	d+12.2	8.1	d+2.0	4.0	3.53
140.0 ~ 399.9	d+16.0	9.5	d+2.5	5.0	5.33
400.0 ~ 649.9	d+24.0	14.0	d+2.5	8.0	6.99
650.0 ~ 999.9	d+27.3	16.0	d+2.5	10.0	8.40
>1000.0	d+27.3	16.0	d+2.5	10.0	8.40

5. Marking method

Mark it with the dimension of installation groove as below

For example, the standard $\phi 100$ GSZ seal is marked as GSZ100×112.2×8.1

GSZ

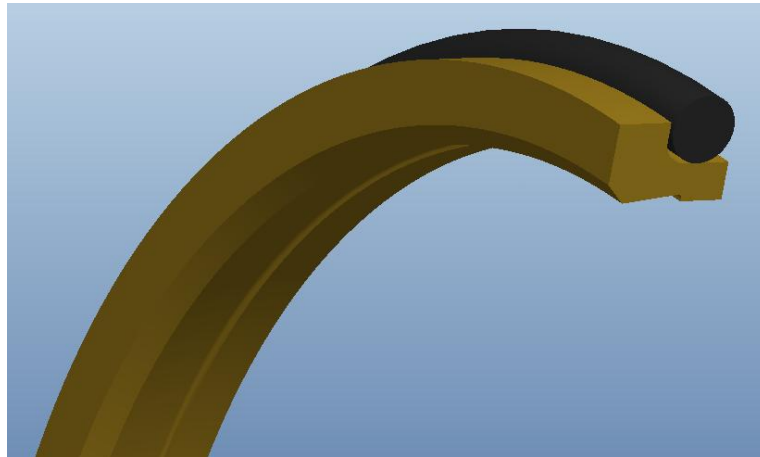


5. Installation Dimensions

Rod Dia	Groove Dia	Groove Width	Step Width	Part No.
d	D	L	a	
20	27.6	4.2	3	GSZ0200
25	32.6	4.2	3	GSZ0250
28	35.6	4.2	3	GSZ0280
30	37.6	4.2	3	GSZ0300
32	39.6	4.2	3	GSZ0320
36	43.6	4.2	3	GSZ0360
40	48.8	6.3	3	GSZ0400
42	50.8	6.3	3	GSZ0420
45	53.8	6.3	3	GSZ0450
50	58.8	6.3	3	GSZ0500
55	63.8	6.3	3	GSZ0550
56	64.8	6.3	3	GSZ0560
60	68.8	6.3	3	GSZ0600
63	71.8	6.3	3	GSZ0630
65	73.8	6.3	3	GSZ0650
70	82.2	8.1	4	GSZ0700
75	87.2	8.1	4	GSZ0750
80	92.2	8.1	4	GSZ0800
85	97.2	8.1	4	GSZ0850
90	102.2	8.1	4	GSZ0900
95	107.2	8.1	4	GSZ0950
100	112.2	8.1	4	GSZ1000
105	117.2	8.1	4	GSZ1050
110	122.2	8.1	4	GSZ1100
115	127.2	8.1	4	GSZ1150
120	132.2	8.1	4	GSZ1200
125	137.2	8.1	4	GSZ1250
130	142.2	8.1	4	GSZ1300
135	147.2	8.1	4	GSZ1350
140	156	9.5	5	GSZ1400
145	161	9.5	5	GSZ1450
150	166	9.5	5	GSZ1500
155	171	9.5	5	GSZ1550
160	176	9.5	5	GSZ1600
165	181	9.5	5	GSZ1650

Rod Dia	Groove Dia	Groove Width	Step Width	Part No.
d	D	L	a	
170	186	9.5	5	GSZ1700
175	191	9.5	5	GSZ1750
180	196	9.5	5	GSZ1800
190	206	9.5	5	GSZ1900
200	216	9.5	5	GSZ2000
210	226	9.5	5	GSZ2100
220	236	9.5	5	GSZ2200
240	256	9.5	5	GSZ2400
250	266	9.5	5	GSZ2500
260	276	9.5	5	GSZ2600
270	286	9.5	5	GSZ2700
280	296	9.5	5	GSZ2800
300	316	9.5	5	GSZ3000
320	336	9.5	5	GSZ3200
330	346	9.5	5	GSZ3300
350	366	9.5	5	GSZ3500
360	376	9.5	5	GSZ3600
380	396	9.5	5	GSZ3800
400	424	14	8	GSZ4000
440	464	14	8	GSZ4400
450	474	14	8	GSZ4500
480	504	14	8	GSZ4800
500	524	14	8	GSZ5000
560	584	14	8	GSZ5600
600	624	14	8	GSZ6000
650	677.3	16	10	GSZ6500
680	707.3	16	10	GSZ6800
700	727.3	16	10	GSZ7000
770	797.3	16	10	GSZ7700
785	812.3	16	10	GSZ7850
800	827.3	16	10	GSZ8000
810	837.3	16	10	GSZ8100
900	927.3	16	10	GSZ9000
950	977.3	16	10	GSZ9500
1000	1027.3	16	10	GSZ10000

F



1. Application and properties

Suitable for installation of compact oil and cylinder under harsh working conditions, mainly used in hydraulic and pneumatic devices, servo systems, chemical and food equipment. Excellent sliding performance, no stick-slip or crawling phenomenon, can compensate for large deformation of piston rod and plunger, very good compatibility with hydraulic media, can effectively erase the remaining oil film adhering to the surface of the piston rod from the inside.

Operating temperature range from -30°C to $+160^{\circ}\text{C}$. Can be used for special working conditions such as high speed, extremely low speed, micro-stroke, etc.

Small groove size for easy installation.

Can adapt to a certain degree of eccentricity and beat.

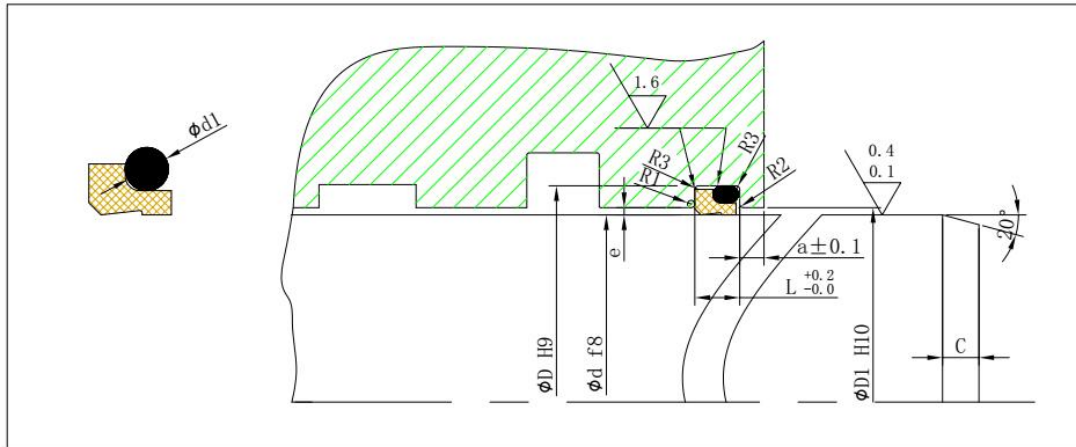
2. Standard material

Sealing ring: filled PTFE

O-Ring: NBR / FKM

3. Working conditions

Working conditions			
Diameter Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
5 ~ 2000mm	-30 ~ 100(NBR) -20 ~ 160(FKM)	5m/s	Hydraulic oil, flame retardant liquid, water,



4. Related Dimensions

$R1=0.2 \sim 0.3$; $R2=0.2$; $R3=0.3 \sim 0.5$; $e=0.05 \sim 0.5$; $C=(0.5 \sim 1.0)L$; The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

Rod Dia.	Groove Dia.	Groove Width	Groove Dia.-1	Rabbit Width	O-Ring Cross-Section
d	D	L	D1	a	d1
.0 ~ 11.9	d+4.8	3.7	d+1.5	2	1.78
12.1 ~ 64.9	d+6.8	5.0	d+1.5	2	2.62
65.0 ~ 250.9	d+8.8	6.0	d+1.5	3	3.53
251.0 ~ 420.9	d+12.2	8.4	d+2.0	4	5.33
421.0 ~ 650.9	d+16.0	11.0	d+2.0	4	6.99
651.0 ~ 999.9	d+20.0	14.0	d+2.5	5	8.40
>1000.0	d+20.0	14.0	d+2.5	5	8.40

5. Marking method

Mark with the dimension of installation groove as below:

For example, the $\phi 100$ GSZ2 combination seal is marked as GSZ2-100×108.8×6

6. Installation Dimensions

Rod Dia	Groove Dia	Groove Width	Rabbit Width	Part No.
d	D	L	a	
6	10.8	3.7	2	GSZ2-0060
8	12.8	3.7	2	GSZ2-0080
10	14.8	3.7	2	GSZ2-0100
12	18.8	5	2	GSZ2-0120
14	20.8	5	2	GSZ2-0140
15	21.8	5	2	GSZ2-0150
16	22.8	5	2	GSZ2-0160
18	24.8	5	2	GSZ2-0180
20	26.8	5	2	GSZ2-0200
22	28.8	5	2	GSZ2-0220
25	31.8	5	2	GSZ2-0250
30	36.8	5	2	GSZ2-0300
32	38.8	5	2	GSZ2-0320
35	41.8	5	2	GSZ2-0350
36	42.8	5	2	GSZ2-0360
37	43.8	5	2	GSZ2-0370
40	46.8	5	2	GSZ2-0400
42	48.8	5	2	GSZ2-0420
45	51.8	5	2	GSZ2-0450
50	56.8	5	2	GSZ2-0500
55	61.8	5	2	GSZ2-0550
56	62.8	5	2	GSZ2-0560
60	66.8	5	2	GSZ2-0600
63	69.8	5	2	GSZ2-0630
65	73.8	6	3	GSZ2-0650
70	78.8	6	3	GSZ2-0700
75	83.8	6	3	GSZ2-0750
80	88.8	6	3	GSZ2-0800
85	93.8	6	3	GSZ2-0850
90	98.8	6	3	GSZ2-0900
95	103.8	6	3	GSZ2-0950
100	108.8	6	3	GSZ2-1000
105	113.8	6	3	GSZ2-1050
110	118.8	6	3	GSZ2-1100
115	123.8	6	3	GSZ2-1150
120	128.8	6	3	GSZ2-1200

Rod Dia	Groove Dia	Groove Width	Rabbit Width	Part No.
d	D	L	a	
125	133.8	6	3	GSZ2-1250
130	138.8	6	3	GSZ2-1300
135	143.8	6	3	GSZ2-1350
140	148.8	6	3	GSZ2-1400
145	153.8	6	3	GSZ2-1450
150	158.8	6	3	GSZ2-1500
160	168.8	6	3	GSZ2-1600
170	178.8	6	3	GSZ2-1700
180	188.8	6	3	GSZ2-1800
190	198.8	6	3	GSZ2-1900
200	208.8	6	3	GSZ2-2000
210	218.8	6	3	GSZ2-2100
220	228.8	6	3	GSZ2-2200
230	238.8	6	3	GSZ2-2300
240	248.8	6	3	GSZ2-2400
250	258.8	6	3	GSZ2-2500
260	272.2	8.4	4	GSZ2-2600
280	292.2	8.4	4	GSZ2-2800
300	312.2	8.4	4	GSZ2-3000
320	332.2	8.4	4	GSZ2-3200
350	362.2	8.4	4	GSZ2-3500
360	372.2	8.4	4	GSZ2-3600
370	382.2	8.4	4	GSZ2-3700
400	412.2	8.4	4	GSZ2-4000
440	456	11	4	GSZ2-4400
480	496	11	4	GSZ2-4800
600	616	11	4	GSZ2-6000
630	646	11	4	GSZ2-6300
680	700	14	5	GSZ2-6800
700	720	14	5	GSZ2-7000
770	790	14	5	GSZ2-7700
820	840	14	5	GSZ2-8200
880	900	14	5	GSZ2-8800
900	920	14	5	GSZ2-9000
1030	1050	14	5	GSZ2-10300



1. Application and properties

Suitable for agricultural machinery, injection molding machines, forklifts, cranes, etc. It consists of a sealing ring and 2 O-rings, used to improve overall sealing. Low friction, no stick-slip phenomenon, with good adjustment and positioning ability, high reliability, and can effectively erase the remaining oil film adhering to the surface of the piston rod from the inside.

Its operating temperature range is wide, depending on the O-ring material.

Can be used for special working conditions such as high speed, extremely low speed, micro-stroke, etc.

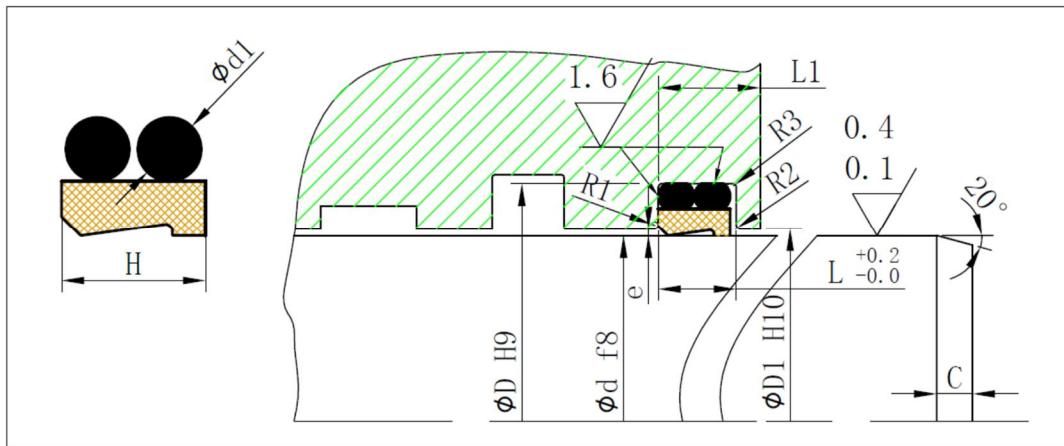
2. Standard material

Sealing ring: filled PTFE

O-Ring: NBR / FKM

3. Working conditions

Working conditions			
Diameter Range	Temperature Range°C	Speed	Medium
20 ~ 2000mm	-30 ~ 100(NBR) -20 ~ 160(FKM)	5m/s	Hydraulic oil, flame retardant liquid, water,



4. Related Dimensions

$R1=0.2 \sim 0.5$, $R2=0.1 \sim 0.2$; $R3=0.3 \sim 2$; $C=(0.7 \sim 1.0)L$; The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

Rod Dia.	Groove Dia.	Groove Width	Groove Dia.-1	Groove Margin	O-Ring Cross-Section
d	D	L	D1	L1	d1
20 ~ 39.9	d+7.6	4.2	d+1.0	8.2	1.78
40 ~ 69.9	d+8.8	6.3	d+1.5	10.3	2.62
70 ~ 139.9	d+12.2	8.1	d+2.0	12.1	3.53
140 ~ 399.9	d+16.0	11.5	d+2.0	15.5	5.33
400 ~ 649.9	d+24.0	15.5	d+2.5	19.5	8.40
650 ~ 999.9	d+27.3	18.0	d+2.5	23.0	12.0

5. Marking method

Mark with the dimension of installation groove as below:

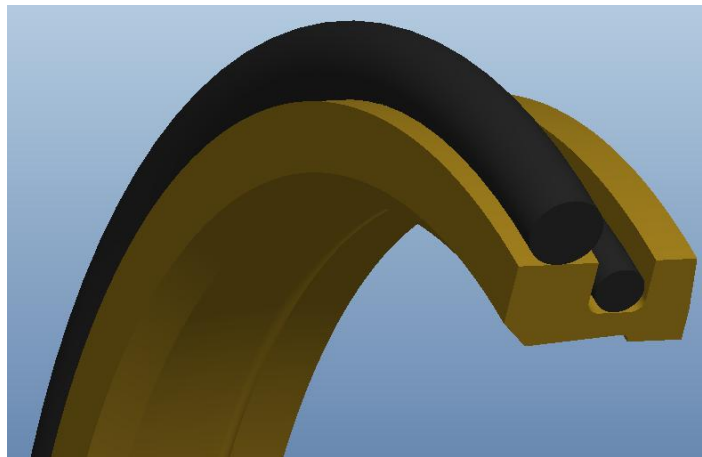
For example, the standard $\phi 100$ DPT1 combination seal is marked as: DPT1-100×112×8.1



DPT1

6. Installation Dimensions

Rod Dia	Groove Dia	Seal Width	Groove Width	Part No.	Rod Dia	Groove Dia	Seal Width	Groove Width	Part No.
d	D	H	L		d	D	H	L	
20	27.6	4.0	4.2	DPT1-0200	220	236	11	11.5	DPT1-2200
25	32.6	4.0	4.2	DPT1-0250	230	246	11	11.5	DPT1-2300
28	35.6	4.0	4.2	DPT1-0280	240	256	11	11.5	DPT1-2400
30	37.6	4.0	4.2	DPT1-0300	250	266	11	11.5	DPT1-2500
32	39.6	4.0	4.2	DPT1-0320	260	276	11	11.5	DPT1-2600
35	42.6	4.0	4.2	DPT1-0350	265	281	11	11.5	DPT1-2650
36	43.6	4.0	4.2	DPT1-0360	270	286	11	11.5	DPT1-2700
40	48.8	6.0	6.3	DPT1-0400	280	296	11	11.5	DPT1-2800
42	50.8	6.0	6.3	DPT1-0420	290	306	11	11.5	DPT1-2900
45	53.8	6.0	6.3	DPT1-0450	300	316	11	11.5	DPT1-3000
50	58.8	6.0	6.3	DPT1-0500	330	346	11	11.5	DPT1-3300
55	63.8	6.0	6.3	DPT1-0550	350	366	11	11.5	DPT1-3500
56	64.8	6.0	6.3	DPT1-0560	370	386	11	11.5	DPT1-3700
60	68.8	6.0	6.3	DPT1-0600	380	396	11	11.5	DPT1-3800
63	71.8	6.0	6.3	DPT1-0630	400	424	14.8	15.5	DPT1-4000
65	73.8	6.0	6.3	DPT1-0650	420	444	14.8	15.5	DPT1-4200
70	82.2	7.7	8.1	DPT1-0700	450	474	14.8	15.5	DPT1-4500
75	87.2	7.7	8.1	DPT1-0750	470	494	14.8	15.5	DPT1-4700
80	92.2	7.7	8.1	DPT1-0800	480	504	14.8	15.5	DPT1-4800
85	97.2	7.7	8.1	DPT1-0850	500	524	14.8	15.5	DPT1-5000
90	102.2	7.7	8.1	DPT1-0900	520	544	14.8	15.5	DPT1-5200
95	107.2	7.7	8.1	DPT1-0950	550	574	14.8	15.5	DPT1-5500
100	112.2	7.7	8.1	DPT1-1000	585	609	14.8	15.5	DPT1-5850
105	117.2	7.7	8.1	DPT1-1050	600	624	14.8	15.5	DPT1-6000
110	122.2	7.7	8.1	DPT1-1100	620	644	14.8	15.5	DPT1-6200
115	127.2	7.7	8.1	DPT1-1150	635	659	14.8	15.5	DPT1-6350
120	132.2	7.7	8.1	DPT1-1200	675	702.3	17.2	18	DPT1-6750
125	137.2	7.7	8.1	DPT1-1250	690	717.3	17.2	18	DPT1-6900
130	142.2	7.7	8.1	DPT1-1300	700	727.3	17.2	18	DPT1-7000
135	147.2	7.7	8.1	DPT1-1350	710	737.3	17.2	18	DPT1-7100
140	156	11	11.5	DPT1-1400	750	777.3	17.2	18	DPT1-7500
145	161	11	11.5	DPT1-1450	780	807.3	17.2	18	DPT1-7800
150	166	11	11.5	DPT1-1500	800	827.3	17.2	18	DPT1-8000
155	171	11	11.5	DPT1-1550	810	837.3	17.2	18	DPT1-8100
160	176	11	11.5	DPT1-1600	820	847.3	17.2	18	DPT1-8200
165	181	11	11.5	DPT1-1650	830	857.3	17.2	18	DPT1-8300
170	186	11	11.5	DPT1-1700	850	877.3	17.2	18	DPT1-8500
175	191	11	11.5	DPT1-1750	870	897.3	17.2	18	DPT1-8700
180	196	11	11.5	DPT1-1800	880	907.3	17.2	18	DPT1-8800
190	206	11	11.5	DPT1-1900	890	917.3	17.2	18	DPT1-8900
200	216	11	11.5	DPT1-2000	900	927.3	17.2	18	DPT1-9000
210	226	11	11.5	DPT1-2100	910	937.3	17.2	18	DPT1-9100



1. Application and properties

Suitable for agricultural machinery, injection molding machines, metallurgical equipment, etc. It consists of a sealing ring and 2 O-rings used as preloading elements, with good dust scraping effect, low friction, and no stick-slip phenomenon. It has good adjustment and positioning ability, especially suitable for large diameter piston rods.

Operating temperature range from -30°C to $+160^{\circ}\text{C}$. Can be used for special working conditions such as high speed, extremely low speed, micro-stroke, etc.

Double-lip design can scrape off excess oil film carried by the piston rod, keeping the oil film thickness at a reasonable level.

2. Standard material

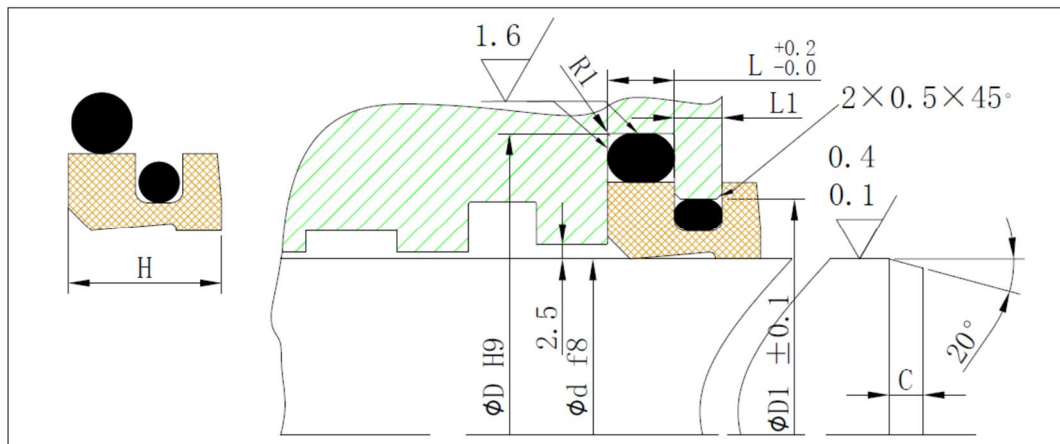
Sealing ring: filled PTFE

O-Ring: NBR / FKM

3. Working conditions

Working conditions			
Diameter Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
100 ~ 2000mm	-30 ~ 100(NBR) -20 ~ 160(FKM)	5m/s	Hydraulic oil, flame retardant liquid, water,

DPT2



4. Related Dimensions

$R1=1 \sim 2$; $C=(0.7 \sim 1.0)L$. The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

Rod Dia. d		Groove Dia.	Groove Width	Groove Dia.-1	Outer Groove Width
Standard Application	Suitable Applicaition	D	L	D1	L1
100 ~ 229.9	100 ~ 450.0	d+22.2	6.3	d+10.7	4.2
230 ~ 299.9	220 ~ 450.0	d+24.2	6.3	d+10.7	4.2
300 ~ 629.9	250 ~ 650.0	d+33.0	8.1	d+15.1	6.3
630 ~ 999.9	500.0 ~ 1000	d+36.5	9.5	d+15.1	6.3

5. Marking method

Mark with the dimension of installation groove as below:

For example, the standard $\phi 100$ DPT2 combination seal is marked as DPT2-100 $\times$ 122.2 $\times$ 13.5

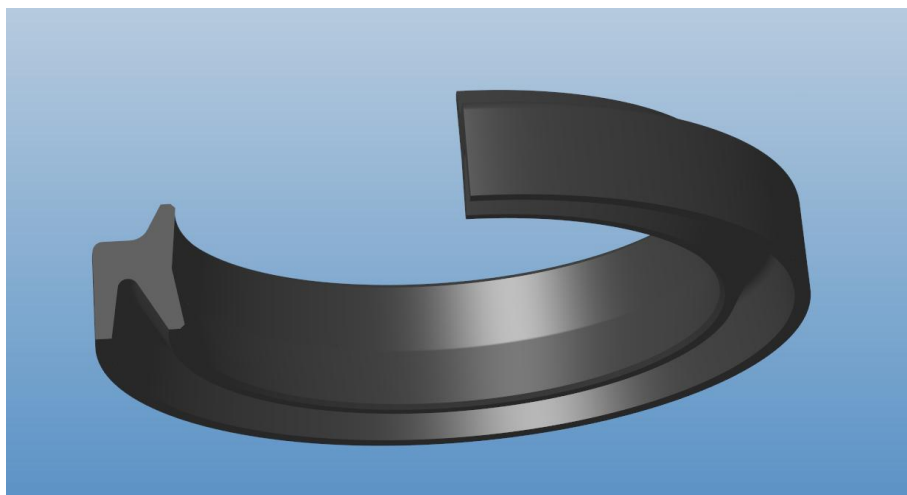


6. Installation Dimensions

d	D	H	L	L1	Part No
100	122.2	13.5	6.3	4.2	DPT2-1000
110	132.2	13.5	6.3	4.2	DPT2-1100
120	142.2	13.5	6.3	4.2	DPT2-1200
130	152.2	13.5	6.3	4.2	DPT2-1300
140	162.2	13.5	6.3	4.2	DPT2-1400
150	172.2	13.5	6.3	4.2	DPT2-1500
160	182.2	13.5	6.3	4.2	DPT2-1600
170	192.2	13.5	6.3	4.2	DPT2-1700
180	202.2	13.5	6.3	4.2	DPT2-1700
190	212.2	13.5	6.3	4.2	DPT2-1900
200	222.2	13.5	6.3	4.2	DPT2-2000
210	232.2	13.5	6.3	4.2	DPT2-2100
220	242.2	13.5	6.3	4.2	DPT2-2200
230	252.2	13.5	6.3	4.2	DPT2-2300
240	262.2	13.5	6.3	4.2	DPT2-2400
250	272.2	13.5	6.3	4.2	DPT2-2500
260	282.2	13.5	6.3	4.2	DPT2-2600
270	292.2	13.5	6.3	4.2	DPT2-2700
275	297.2	13.5	6.3	4.2	DPT2-2750
280	302.2	13.5	6.3	4.2	DPT2-2800
290	312.2	13.5	6.3	4.2	DPT2-2900
295	317.2	13.5	6.3	4.2	DPT2-2950
300	333	18.4	8.1	6.3	DPT2-3000
320	353	18.4	8.1	6.3	DPT2-3200
340	373	18.4	8.1	6.3	DPT2-3400
350	383	18.4	8.1	6.3	DPT2-3500
360	393	18.4	8.1	6.3	DPT2-3600
370	403	18.4	8.1	6.3	DPT2-3700
380	413	18.4	8.1	6.3	DPT2-3800
385	418	18.4	8.1	6.3	DPT2-3850
390	423	18.4	8.1	6.3	DPT2-3900
400	433	18.4	8.1	6.3	DPT2-4000

d	D	H	L	L1	Part No
410	443	18.4	8.1	6.3	DPT2-4100
420	453	18.4	8.1	6.3	DPT2-4200
430	463	18.4	8.1	6.3	DPT2-4300
440	473	18.4	8.1	6.3	DPT2-4400
450	483	18.4	8.1	6.3	DPT2-4500
470	503	18.4	8.1	6.3	DPT2-4700
480	513	18.4	8.1	6.3	DPT2-4800
500	533	18.4	8.1	6.3	DPT2-5000
510	543	18.4	8.1	6.3	DPT2-5100
550	583	18.4	8.1	6.3	DPT2-5500
560	593	18.4	8.1	6.3	DPT2-5600
600	633	18.4	8.1	6.3	DPT2-6000
630	666.5	19.8	9.5	6.3	DPT2-6300
640	676.5	19.8	9.5	6.3	DPT2-6400
660	696.5	19.8	9.5	6.3	DPT2-6600
670	706.5	19.8	9.5	6.3	DPT2-6700
700	736.5	19.8	9.5	6.3	DPT2-7000
740	776.5	19.8	9.5	6.3	DPT2-7400
750	786.5	19.8	9.5	6.3	DPT2-7500
795	831.5	19.8	9.5	6.3	DPT2-7950
800	836.5	19.8	9.5	6.3	DPT2-8000
820	856.5	19.8	9.5	6.3	DPT2-8200
830	866.5	19.8	9.5	6.3	DPT2-8300
850	886.5	19.8	9.5	6.3	DPT2-8500
890	926.5	19.8	9.5	6.3	DPT2-8900
950	986.5	19.8	9.5	6.3	DPT2-9500
970	1006.5	19.8	9.5	6.3	DPT2-9700
1130	1166.5	19.8	9.5	6.3	DPT2-11300
1150	1186.5	19.8	9.5	6.3	DPT2-11500
1160	1196.5	19.8	9.5	6.3	DPT2-11600
1320	1356.5	19.8	9.5	6.3	DPT2-13200

FD



1. Application and properties

With double mouth, it can prevent the intrusion of dust, dirt, gravel and metal debris, and also can scrape the oil film on the rod, and effectively erase the remaining oil film adhering to the surface of the rod from the inside.

When using PTFE rod seals, it is recommended to use this dust seal together.

The sliding surface between the two lips can retain hydraulic oil (lubricant), greatly improving the friction condition and accordingly prolonging the service life of the seal.

Small groove size and integral groove design make it easy to install.

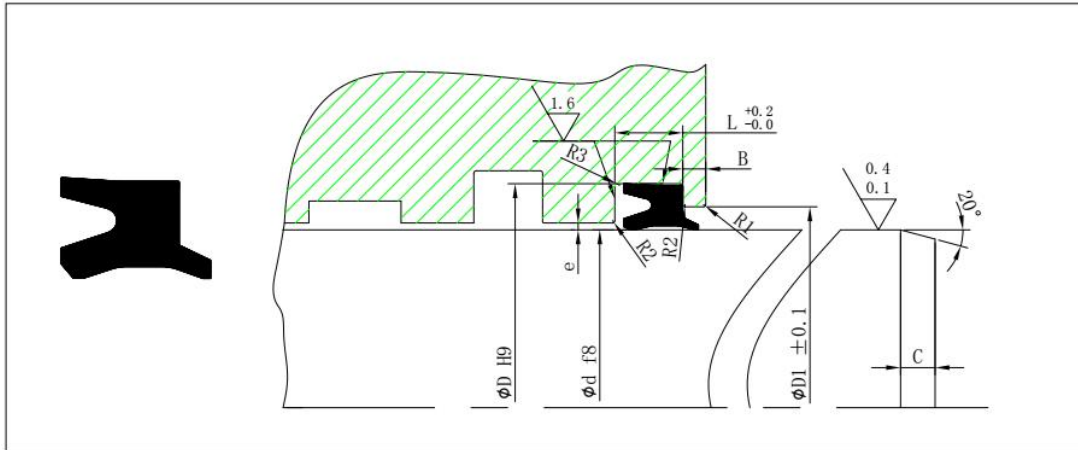
Strong dust scraping ability

2. Standard material

NBR/FKM

3. Working conditions

Working conditions			
Diameter Range	Temperature Range°C	Speed	Medium
12 ~ 500mm	-30 ~ 100(NBR), -20 ~ 160(FKM)	0.5m/s	hydraulic oil



4. Related Dimensions

$R_1=0.2 \sim 0.5$; $R_2=0.1 \sim 0.2$; $R_3=0.3 \sim 0.5$; $e=0.05 \sim 0.5$; $C=(0.7 \sim 1.0)L$. The specific value is selected according to the size of the section of the seal and the remaining values are listed in the Installation Dimensions table.

5. Marking method

Mark it with the dimension of installation groove as below:

FD "Nominal diameter dimension d " $\times$ "Groove Outer Diameter D " $\times$ "Groove Height L "

For example, FD100 $\times$ 110 $\times$ 7 means FD Seal groove dimensions $\phi 100 \times \phi 110 \times 7$

FD

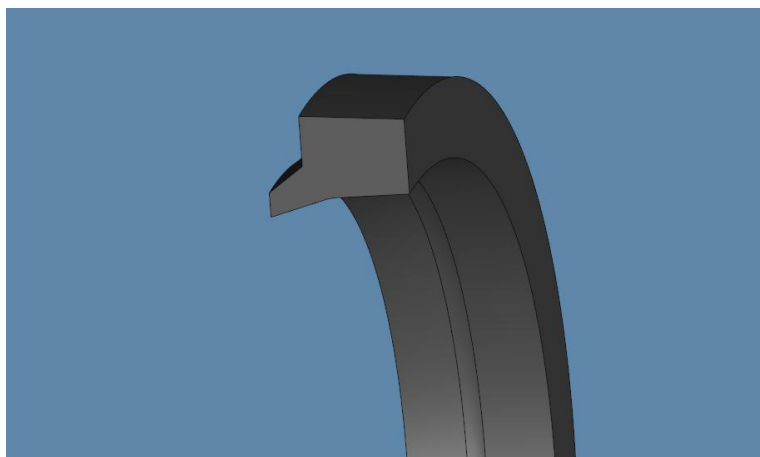


6. Installation Dimensions

d	D	D1	L	B
12	20	16.3	5	2
12.5	20.5	16.8	5	2
14	22	18.3	5	2
16	24	20.3	5	2
18	26	22.3	5	2
20	28	24.3	5	2
22.4	30.4	26.7	5	2
22	30	26.3	5	2
25	33	29.3	5	2
28	36	32.3	5	2
30	38	34	6	2
31.5	39.5	35.5	6	2
32	40	36	6	2
35	43	39	6	2
35.5	43.5	39.5	6	2
36	44	40	6	2
40	48	44	6	2
45	53	49	6	2
50	58	54	6	2
53	61	57	6	2
55	63	59	6	2
56	64	60	6	2
60	68	64	6	2
63	71	67	6	2
65	73	69	6	2
67	75	71	6	2
70	80	75	7	3
71	81	76	7	3
75	85	80	7	3
80	90	85	7	3

d	D	D1	L	B
85	95	90	7	3
90	100	95	7	3
95	105	100	7	3
100	110	105	7	3
105	115	110	7	3
106	116	111	7	3
112	122	117	7	3
115	125	120	7	3
118	128	123	7	3
120	133	127	8	3
125	138	132	8	3
132	145	139	8	3
140	153	147	8	3
145	158	152	8	3
150	163	157	8	3
155	168	162	8	3
160	174	167	8	3
165	179	172	8	3
170	183	177	8	3
175	188	182	8	3
180	194	187	8	3
190	203	197	8	3
200	214	207	8	3
205	218	212	8	3
210	223	217	8	3
224	237	231	8	3
240	256	248	8	3
250	266	258	10	4
280	296	288	10	4

F



1. Application and properties

It can prevent the intrusion of dust, dirt, sand, and metal debris.

Special screws and brackets are not required for installation. There are no strict tolerances and no need for metal inserts. Small groove size and integral groove design make it easy to install.

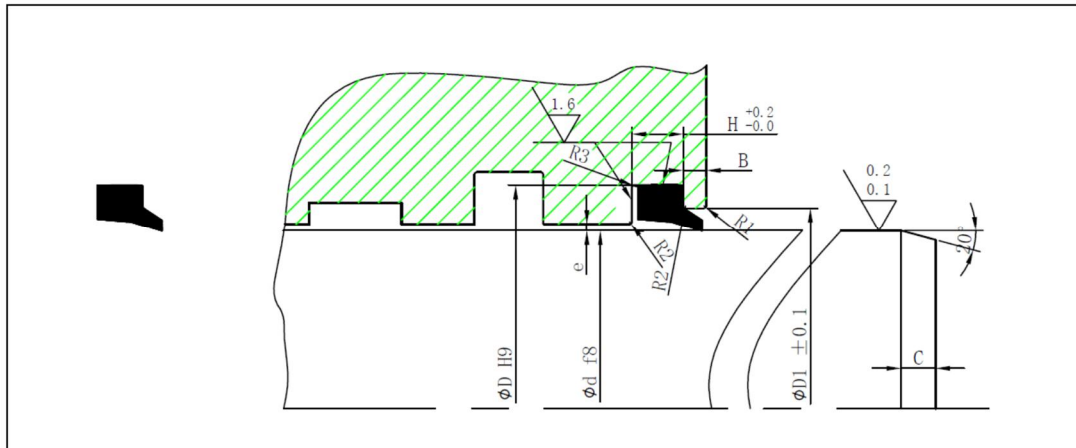
2. Standard material

NBR/FKM

3. Working conditions

Working conditions			
Diameter Range	Temperature Range°C	Speed	Medium
12 ~ 500mm	-30 ~ 100(NBR), -20 ~ 160(FKM)	0.5m/s	hydraulic oil

FS



4. Related Dimensions

$R1=0.2 \sim 0.5$; $R2=0.1 \sim 0.2$; $R3=0.3 \sim 0.5$; $e=0.05 \sim 0.5$; $C=(0.7 \sim 1.0)H$. The specific value is selected according to the size of the section of the seal and the remaining values are listed in the Installation Dimensions table.

5. Marking method

Mark it with the dimension of installation groove as below:

FS "Nominal diameter dimensions d" × "Groove Outer Diameter D" × "Groove Height L"

For example, FS100×110×7 means FS seal groove dimensions: $\phi 100 \times \phi 110 \times 7$

6. Installation Dimensions

d	D	H	D1	B
6.3	14.3	5	10.3	2
8	16	5	12	2
9	17	5	13	2
10	18	5	14	2
11.2	19.2	5	15.2	2
12.5	20.5	5	16.5	2
14	22	5	18	2
15	23	5	19	2
16	24	5	20.3	2
18	26	5	22.3	2
20	28	5	24	2
22.4	30.4	6	26.4	2
23.5	31.5	6	27.5	2
25	33	6	29	2
28	36	6	32	2
30	38	6	34	2
31.5	39.5	6	35.5	2
35	43	6	39	2
35.5	43.5	6	39.5	2

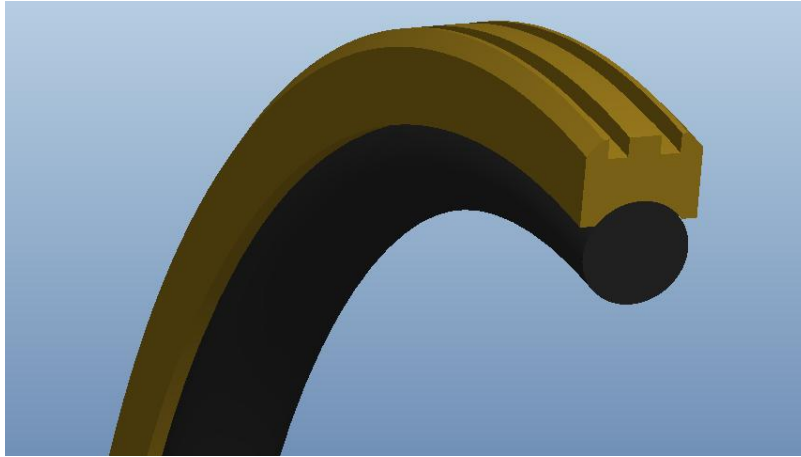
d	D	H	D1	B
40	48	6	44	2
45	53	6	49	2
45.5	53.5	6	49.5	2
50	58	6	54	2
53	61	6	57	2
54.5	62.5	6	58.5	2
55	63	6	59	2
56	64	6	60	2
60	68	6	64	2
62	70	6	66	2
63	71	6	67	2
65	73	6	69	2
67	75	6	71	2
70	80	7	75	3
71	81	7	76	3
75	85	7	80	3
76	86	7	81	3
80	90	7	85	3
85	95	7	90	3

Installation Dimensions

d	D	H	D1	B
90	100	7	95	3
95	105	7	100	3
97	107	7	102	3
100	110	7	105	3
105	115	7	110	3
110	120	7	115	3
112	122	7	117	4
118	128	7	123	4
120	130	7	125	4
125	138	8	132	4
130	143	8	137	4
132	145	8	139	4
140	153	8	147	4
145	158	8	152	4
150	163	8	157	4
155	168	8	162	4
160	173	8	167	4
170	183	8	177	4
175	188	8	182	4

d	D	H	D1	B
180	193	8	187	4
185	198	8	192	5
190	203	8	197	5
199	212	8	206	5
200	213	8	207	5
204	217	8	211	5
210	223	8	217	5
215	228	8	222	5
220	233	8	227	5
224	237	8	231	5
225	238	8	232	5
230	243	8	237	5
240	253	8	247	5
250	263	8	257	5
260	275	10	268	5
270	285	10	278	5
280	295	10	288	5
290	305	10	298	5
300	315	10	308	5

Rotary Seals



1. Application and properties

Suitable for rods, shafts, pins, rotating joints, etc. that rotate or pivot with angular motion. It is two-way rotary sealing ring that can withstand pressure from both sides or alternating pressure. It is used in industrial fields such as construction machinery, manipulators, and automobiles.

Low friction, no viscous phenomenon, smooth start-up, and even at low speeds, there is no crawling.

The groove is simple, and the cross-sectional size is small.

Good wear resistance, stable dimensions and highly compatible with hydraulic media.

High temperatures resistance and good anti-extrusion properties.

It can withstand a certain reciprocating motion while rotating.

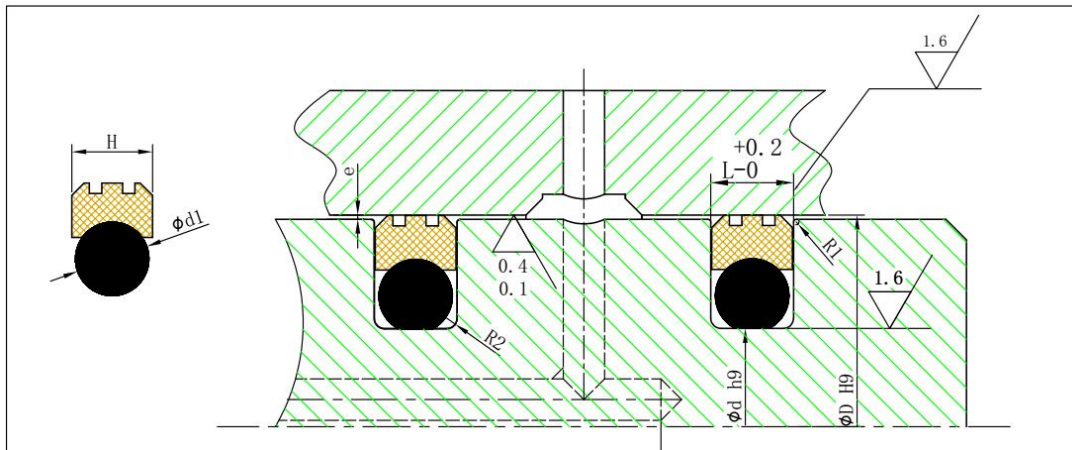
2. Standard material

Sealing ring: filled PTFE

O-Ring: NBR / FKM

3. Working conditions

Working conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
8 ~ 2000mm	0 ~ 30	-30 ~ 160°C	2m/s	Hydraulic oil, flame retardant liquid, water and others



4. Related Dimensions

$R1=0.1 \sim 0.2$; $R2=0.3 \sim 0.5$; The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

Bore Dia. D		Groove Dia.	Groove Width	Radial Clearance e max.		O-Ring Cross-Section
Standard Range	Available range	d	L	16 MPa	25 MPa	d1
8 ~ 39.9	8 ~ 135	D-4.9	2.2	0.15	0.10	1.78
40 ~ 79.9	14 ~ 250	D-7.5	3.2	0.20	0.15	2.62
80 ~ 132.9	22 ~ 460	D-11.0	4.2	0.25	0.20	3.53
133 ~ 329.9	40 ~ 675	D-15.5	6.3	0.30	0.25	5.33
330 ~ 669.9	133 ~ 690	D-21.0	8.1	0.30	0.25	6.99
670 ~ 999.9	670 ~ 999.9	D-28.0	9.5	0.45	0.30	8.40

5. Marking method

Mark it with the dimension of installation groove as below:

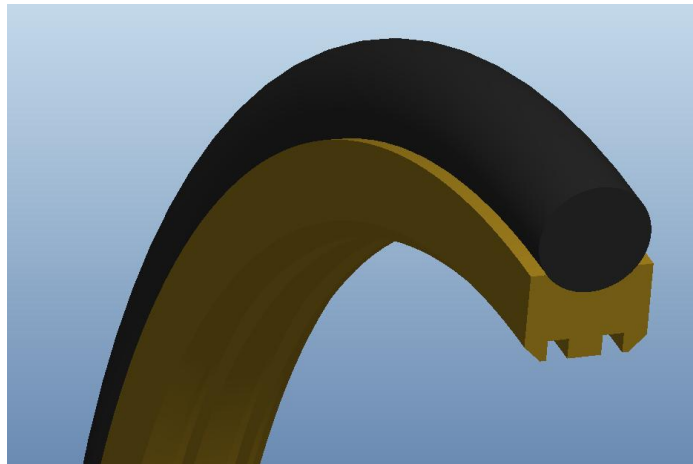
GNS "Nominal diameter dimension D" × "Groove Diameter d" × "Groove Width L"

For example, GNS100×89×4.2 means GNS groove dimensions: $\phi 100 \times \phi 89 \times 4.2$



6. Installation Dimensions

Bore Dia.	Groove Dia.	Groove Width	Part No.	Bore Dia.	Groove Dia.	Groove Width	Part No.
D	d	L		D	d	L	
8	3.1	2.2	GNS0080	105	94	4.2	GNS1050
10	5.1	2.2	GNS0100	110	99	4.2	GNS1100
12	7.1	2.2	GNS0120	115	104	4.2	GNS1150
14	9.1	2.2	GNS0140	120	109	4.2	GNS1200
15	10.1	2.2	GNS0150	125	114	4.2	GNS1250
16	11.1	2.2	GNS0160	130	119	4.2	GNS1300
17	12.1	2.2	GNS0170	135	119.5	6.3	GNS1350
18	13.1	2.2	GNS0180	140	124.5	6.3	GNS1400
20	15.1	2.2	GNS0200	150	134.5	6.3	GNS1500
22	17.1	2.2	GNS0220	160	144.5	6.3	GNS1600
25	20.1	2.2	GNS0250	170	154.5	6.3	GNS1700
28	23.1	2.2	GNS0280	175	159.5	6.3	GNS1750
30	25.1	2.2	GNS0300	180	164.5	6.3	GNS1800
32	27.1	2.2	GNS0320	190	174.5	6.3	GNS1900
35	30.1	2.2	GNS0350	200	184.5	6.3	GNS2000
36	31.1	2.2	GNS0360	210	194.5	6.3	GNS2100
38	33.1	2.2	GNS0380	220	204.5	6.3	GNS2200
40	32.5	3.2	GNS0400	230	214.5	6.3	GNS2300
42	34.5	3.2	GNS0d20	240	224.5	6.3	GNS2400
45	37.5	3.2	GNS0d50	250	234.5	6.3	GNS2500
48	40.5	3.2	GNS0480	280	264.5	6.3	GNS2800
50	42.5	3.2	GNS0500	300	284.5	6.3	GNS3000
52	44.5	3.2	GNS0520	310	294.5	6.3	GNS3100
53	45.5	3.2	GNS0530	320	304.5	6.3	GNS3200
55	47.5	3.2	GNS0550	350	329	8.1	GNS3500
60	52.5	3.2	GNS0600	360	339	8.1	GNS3600
63	55.5	3.2	GNS0630	400	379	8.1	GNS4000
65	57.5	3.2	GNS0650	420	399	8.1	GNS4200
70	62.5	3.2	GNS0700	450	429	8.1	GNS4500
75	67.5	3.2	GNS0750	480	459	8.1	GNS4800
80	69	4.2	GNS0800	500	479	8.1	GNS5000
85	74	4.2	GNS0850	510	489	8.1	GNS5100
90	79	4.2	GNS0900	520	499	8.1	GNS5200
95	84	4.2	GNS0950	550	529	8.1	GNS5500
100	89	4.2	GNS1000	600	579	8.1	GNS6000
102	91	4.2	GNS1020	650	629	8.1	GNS6500



1. Application and properties

Suitable for the rod, shaft, pin, rotary joint of circumferential rotation or angle swing movement. It is a two-way rotating seal ring that can withstand pressure from both sides or alternating pressure. It is widely used in industrial fields such as construction machinery, robotic arms, and automobiles.

Low friction, no sticking phenomenon, smooth start-up, and no crawling even at low speeds.

It has a simple groove and small cross-sectional dimensions, good wear resistance, stable dimensions, excellent compatibility with hydraulic media, high temperature resistance, good extrusion resistance, and can withstand certain reciprocating motion while rotating.

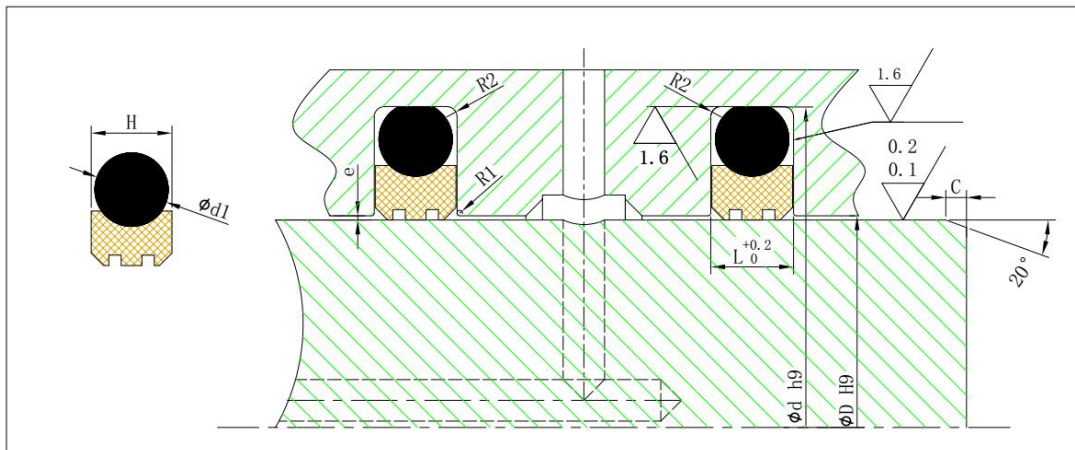
2. Standard material

Sealing ring: filled PTFE

O-Ring: NBR / FKM

3. Working conditions

Working conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
8 ~ 2000mm	0 ~ 30	-30 ~ 100(NBR) -20 ~ 160(FKM)	2m/s	Hydraulic oil, flame retardant liquid, water and others



4. Related Dimensions

$R1=0.1 \sim 0.2$; $R2=0.3 \sim 0.5$; $C=(0.7 \sim 1.0)L$, The specific values are selected according to the section size of the seal.

The remaining values are listed in the table below:

Rod Dia. D		Groove Dia.	Groove Width	Radial Clearance e max.		O-Ring Cross-Section
Standard Range	Available range	D	L	16 MPa	25 MPa	d1
6 ~ 18.9	6 ~ 130	d+4.9	2.2	0.15	0.10	1.78
19 ~ 37.9	10 ~ 245	d+7.5	3.2	0.20	0.15	2.62
38 ~ 199.9	19 ~ 460	d+11.0	4.2	0.25	0.20	3.53
200 ~ 255.9	40 ~ 455	d+15.5	6.3	0.30	0.25	5.33
256 ~ 649.9	38 ~ 655	d+21.0	8.1	0.30	0.25	6.99
650 ~ 999.9	650 ~ 999.9	d+28.0	9.5	0.45	0.30	8.40

5. Marking method

Mark with the dimension of installation groove as below:

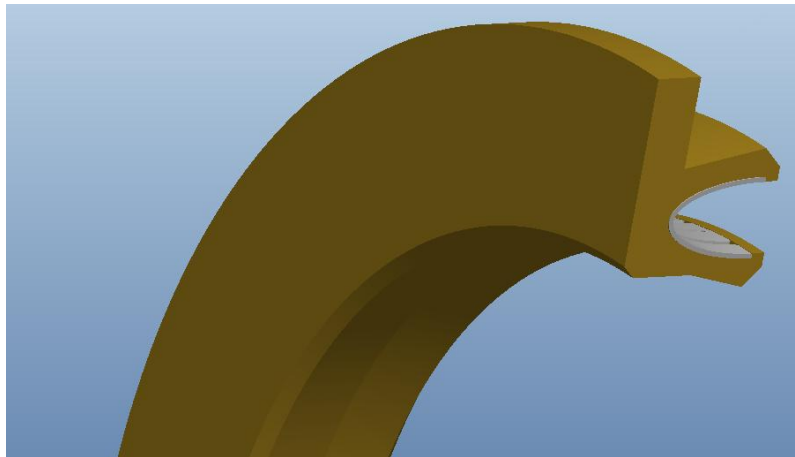
GRS "Nominal diameter dimension d" × "Groove Diameter D" × "Groove Width L"

For example, GRS100×111×4.2 means GRS seal groove dimensions: $\phi 100 \times \phi 111 \times 4.2$



6. Installation Dimensions

Rod Dia.	Groove Dia.	Groove Width	Part No.	Rod Dia.	Groove Dia.	Groove Width	Part No.
d	D	L		d	D	L	
6	10.9	2.2	GRS0060	105	116	4.2	GRS1050
8	12.9	2.2	GRS0080	110	121	4.2	GRS1100
10	14.9	2.2	GRS0100	115	126	4.2	GRS1150
12	16.9	2.2	GRS0120	120	131	4.2	GRS1200
14	18.9	2.2	GRS0140	125	136	4.2	GRS1250
15	19.9	2.2	GRS0150	130	141	4.2	GRS1300
16	20.9	2.2	GRS0160	135	146	4.2	GRS1350
18	22.9	2.2	GRS0180	140	151	4.2	GRS1400
20	27.5	3.2	GRS0200	145	156	4.2	GRS1450
22	29.5	3.2	GRS0220	150	161	4.2	GRS1500
25	32.5	3.2	GRS0250	155	166	4.2	GRS1550
26	33.5	3.2	GRS0260	160	171	4.2	GRS1600
28	35.5	3.2	GRS0280	170	181	4.2	GRS1700
30	37.5	3.2	GRS0300	180	191	4.2	GRS1800
32	39.5	3.2	GRS0320	190	201	4.2	GRS1900
35	42.5	3.2	GRS0350	200	215.5	6.3	GRS2000
36	43.5	3.2	GRS0360	210	225.5	6.3	GRS2100
40	51	4.2	GRS0400	220	235.5	6.3	GRS2200
42	53	4.2	GRS0420	240	255.5	6.3	GRS2400
44	55	4.2	GRS0440	250	265.5	6.3	GRS2500
45	56	4.2	GRS0450	280	301	8.1	GRS2800
48	59	4.2	GRS0480	300	321	8.1	GRS3000
50	61	4.2	GRS0500	320	341	8.1	GRS3200
52	63	4.2	GRS0520	350	371	8.1	GRS3500
55	66	4.2	GRS0550	360	381	8.1	GRS3600
56	67	4.2	GRS0560	400	421	8.1	GRS4000
60	71	4.2	GRS0600	420	441	8.1	GRS4200
63	74	4.2	GRS0630	450	471	8.1	GRS4500
65	76	4.2	GRS0650	480	501	8.1	GRS4800
70	81	4.2	GRS0700	500	521	8.1	GRS5000
75	86	4.2	GRS0750	520	541	8.1	GRS5200
80	91	4.2	GRS0800	530	551	8.1	GRS5300
85	96	4.2	GRS0850	550	571	8.1	GRS5500
90	101	4.2	GRS0900	600	621	8.1	GRS6000
95	106	4.2	GRS0950	650	678	9.5	GRS6500
100	111	4.2	GRS1000	700	728	9.5	GRS7000



1. Application and properties

Suitable for rotary one-way rod seal, and can also be used for reciprocating rod seal with rotary compound movement, and has good sealing performance at high and medium pressures. The working pressure adaptation range is wide.

The friction coefficient is small, and the contact pressure with the mating surface is low. During operation, the frictional force with the mating surface is the lowest among all types of sealing components. It can work with or without lubrication, is wear-resistant, and has a long service life.

The working medium of the sealing sleeve is widely adaptable, and other chemicals do not react with it except soluble alkali metal, high temperature fluorine gas and chlorine trifluoride.

Operating temperature range from -200°C to $+250^{\circ}\text{C}$. It can be used in special working conditions such as extremely high speed, extremely low speed, micro-stroke, etc.

It is suitable for aviation, military, and industrial sealing groove sizes. The installation groove is small and open

2. Standard material

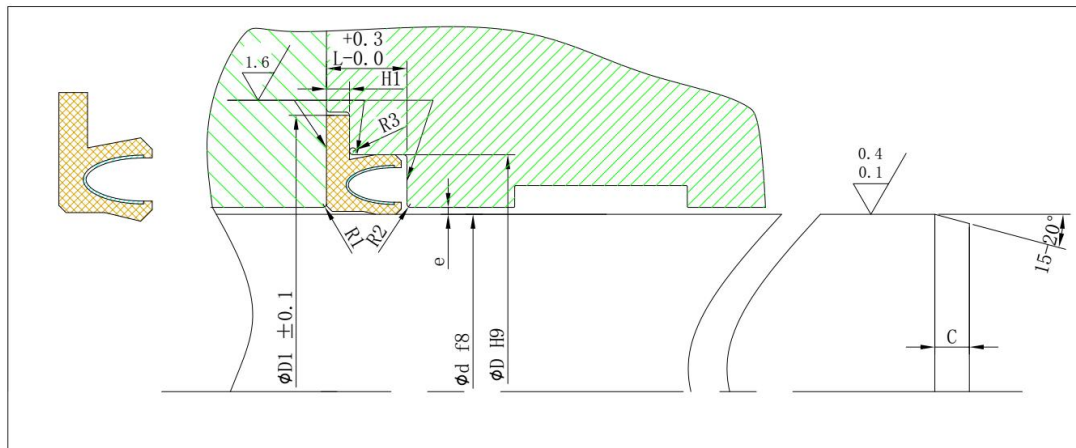
Sealing ring: filled PTFE

Spring: SUS301, 302, 304, 316 or 718 Default use SUS301, please specify if there are special requirement/400A

3. Working conditions

Working conditions				
Diameter Range	Pressure Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
2 ~ 2000mm	0 ~ 20MPa	$-200 \sim 250^{\circ}\text{C}$	5m/s	High and low temperature oil and water vapor and other fluids

FSXL-V



4. Related Dimensions

$R1=0.1 \sim 0.2$; $R2=0.3 \sim 0.5$; $R3=0.3 \sim 0.5$; $D1, H1$, Can be determined according to the specific structure installation space, $C=(0.5 \sim 1.0)L$; The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

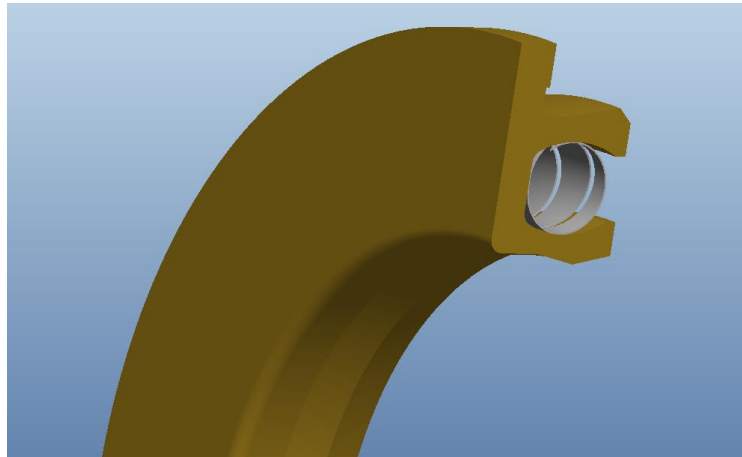
Rod Dia.	Groove Width	Groove Dia.	Radial Clearance e
d	L	D	e
2 ~ 10	2.5	d+3.0	0.05
10 ~ 22	3.2	d+4.0	0.065
22 ~ 52	4.7	d+6.0	0.075
48 ~ 150	7.5	d+10.0	0.09
150 ~ 1000	11	d+15.0	0.10

5. Marking method

Mark it with the dimension of installation groove as below:

FSXL "Rod Diameter d" × "Groove Diameter D" × "Foot Diameter D1" × "Groove Width L" (Foot Height H1)"-
"Spring material and Shape"

For example, FSXL160×170×177.5×7.1(2.05)-304V means FSXL-V seal groove dimensions: d=160, D=170, D1=177.5, L=7.1, H1=2.05, Spring material SUS304, V-shape



1. Application and properties

Suitable for rotary one-way rod seal, and can also be used for reciprocating rod seal with rotary compound movement, with excellent sealing performance in high, medium and low pressure situations. Mainly used in low pressure, low speed or static sealing. The working pressure adaptation range is wide.

The friction coefficient is small, and the contact pressure with the mating surface is low. It can work with or without lubrication, and it is wear-resistant with a long service life. The working medium of the sealing sleeve is widely adaptable, and other chemicals do not react with it except soluble alkali metal, high temperature fluorine gas and chlorine trifluoride.

Operating temperature range from -200°C to +250°C. It can be used in special working conditions such as extremely low speed and micro-stroke.

Suitable for aerospace, military and industrial sealing groove sizes, with small installation grooves and open grooves.

2. Standard material

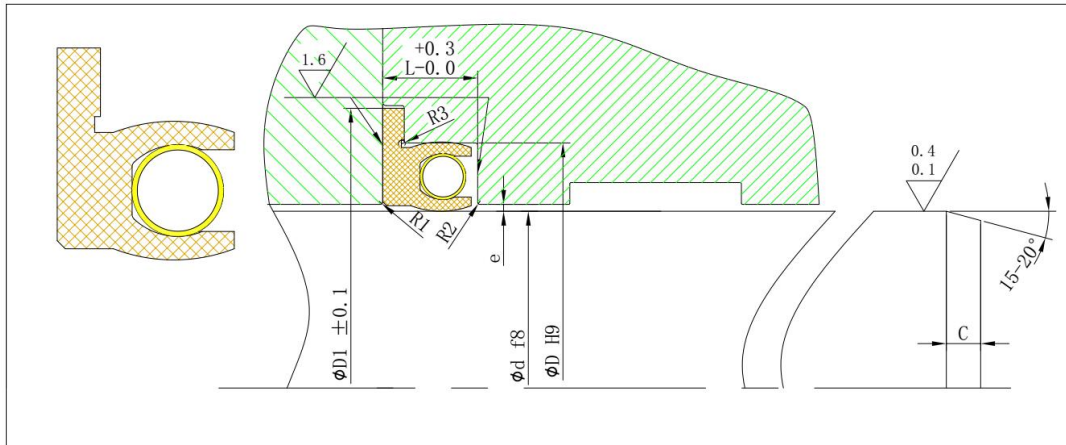
Sealing ring: filled PTFE

Spring: SUS301, 302, 304, 316 or 718 Default use SUS301, please specify if there are special requirement/103A

3. Working conditions

Working conditions				
Diameter Range	Pressure Range	Temperature Range°C	Speed	Medium
2 ~ 2000mm	0 ~ 20MPa	-200 ~ 250°C	0.5m/s	High and low temperature oil,water ,gas and other fluids

FSXL-O



4. Related Dimensions

$R1=0.1 \sim 0.2$; $R2=0.3 \sim 0.5$; $R3=0.3 \sim 0.5$; $D1, H1$, Can be determined according to the specific structure installation space $C=(0.5 \sim 1.0)L$; The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

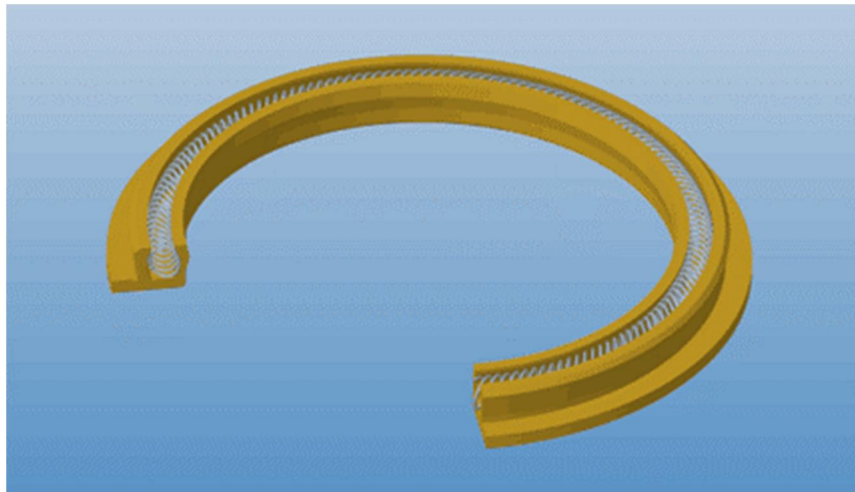
Rod Dia.	Groove Width	Groove Dia.	Radial Clearance e
d	L	D	e
2 ~ 10	2.5	d+3.0	0.050
10 ~ 22	3.2	d+4.0	0.065
22 ~ 52	4.7	d+6.0	0.075
48 ~ 150	7.5	d+10.0	0.090
150 ~ 1000	11	d+15.0	0.100

5. Marking method

Mark it with the dimension of installation groove as below:

FSXL “Rod Diameter d” × “Groove Diameter D” × “Foot Diameter D1” × “Groove Width L” (Foot Height H1)-
“Spring material and shape”

For example, FSXL160×170×177.5×7.1(2.05)-316O means FSXL-O seal groove dimensions d=160, D=170, D1=177.5, L=7.1, H1=2.05, Spring material SUS316, O-shape



1. Application and properties

Suitable for rotary one-way rod seal, and can also be used for reciprocating rod seal with rotary compound movement, with excellent sealing performance in high, medium and low pressure situations.

The friction coefficient is small, and the contact pressure with the mating surface is low. It can work with or without lubrication, and it is wear-resistant with a long service life. The working medium of the sealing sleeve is widely adaptable, and other chemicals do not react with it except soluble alkali metal, high temperature fluorine gas and chlorine trifluoride..

Operating temperature range from -200°C to $+250^{\circ}\text{C}$. It can be used in special working conditions such as extremely low speed and micro-stroke..

Suitable for aerospace, military and industrial sealing groove sizes, with small installation grooves and open grooves.

2. Standard material

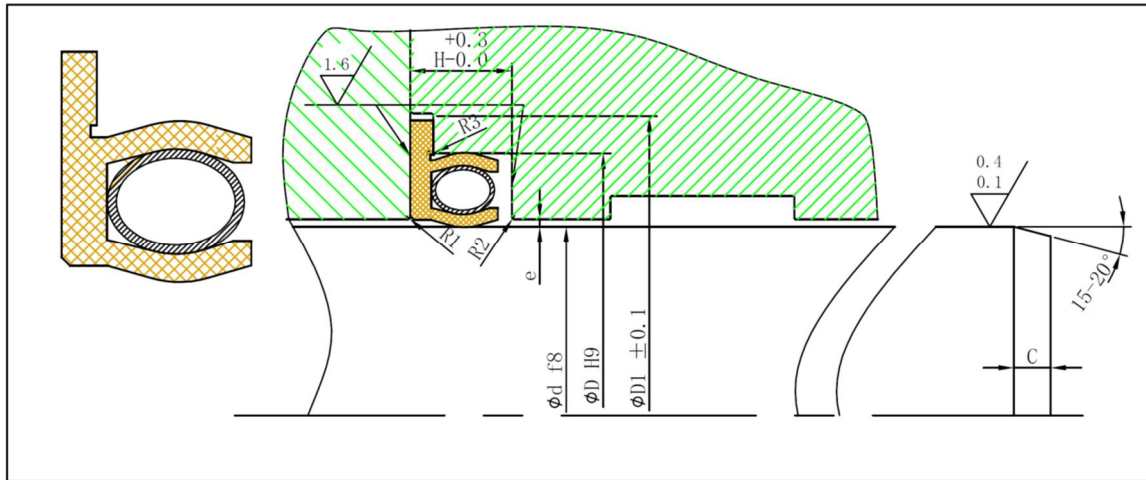
Sealing ring: filled PTFE

Spring: SUS301, 302, 304, 316 or 718 Default use SUS301, please specify if there are special requirement/APS

3. Working conditions

Working conditions				
Diameter Range	Pressure Range	Temperature Range $^{\circ}\text{C}$	Speed	Medium
2~2000mm	0~20MPa	-200~250 $^{\circ}\text{C}$	15m/s	High and low temperature oil and water vapor and other fluids

FSXL-X



4. Related Dimensions

$R1=0.1 \sim 0.2$; $R2=0.3 \sim 0.5$; $R3=0.3 \sim 0.5$; $D1, H1$, Can be determined according to the specific structure installation space, $C=(0.5 \sim 1.0)L$; The specific values are selected according to the section size of the seal. The remaining values are listed in the table below:

Rod Dia.	Groove Width	Groove Dia.	Radial Clearance e
d	L	D	e
2~10	2.5	d+3.0	0.050
10~22	3.2	d+4.0	0.065
22~52	4.7	d+6.0	0.075
48~150	7.5	d+10.0	0.090
150~1000	11	d+15.0	0.100

5. Marking method

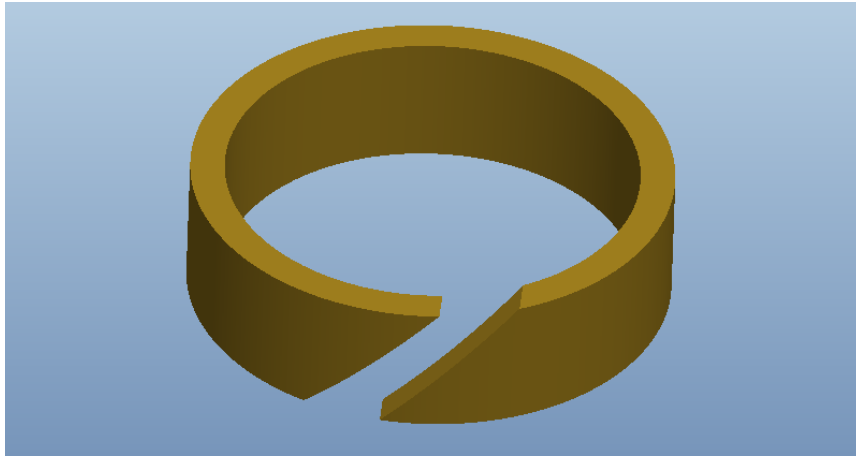
Mark with the dimension of installation groove as below:

FSXL “Rod Diameter d” × “Groove Diameter D” × “Foot Diameter D1” × “Groove Width L” (Foot Height H1)”- “Spring material and shape”

For example, FSXL160×170×177.5×7.1(2.05)-316X means FSXL-X groove dimensions: d=160, D=170, D1=177.5, L=7.1, H1=2.05, Spring material SUS316, oblique spiral shape

Guiding Elements

GST



1. Application and properties

Suitable for guiding the piston and rod in hydraulic and pneumatic cylinders, providing support, isolation, and guidance. Guide bands with thickness equal to or greater than 2mm can provide double-sided embossed products. The embossed structure is conducive to forming lubrication micro-cavities, improving microscopic lubrication and helping to embed small foreign objects to protect the sealing system.

It can be used in special working conditions such as extremely high speed, extremely low speed, and micro-displacement. It can also be used for guiding and positioning in rotating rod seals.

2. Standard material

Filled PTFE

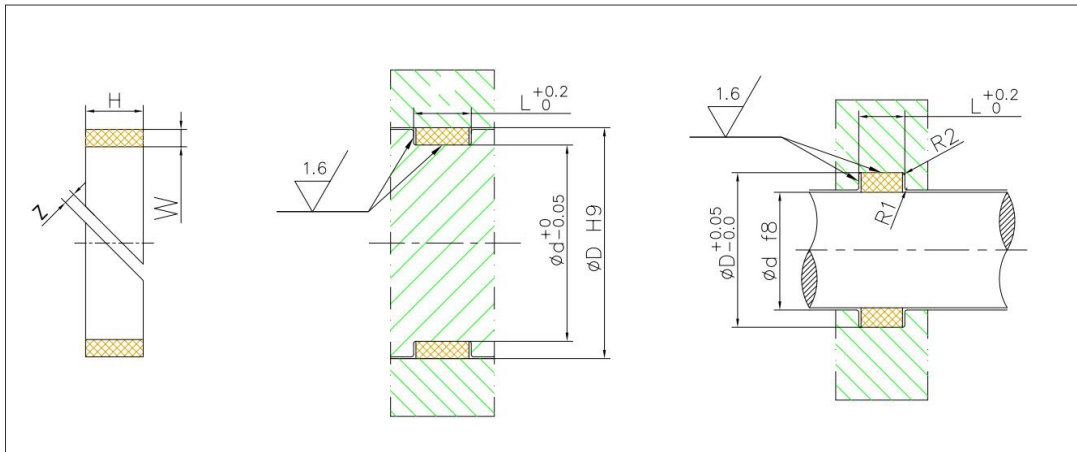
3. Working conditions

Working conditions			
Diameter Range	Temperature Range°C	Speed	Medium
Custom as Required	-200 ~ 250°C	15m/s	Hydraulic oil, flame retardant liquid,

4. Marking method

Mark it with product size

For example, guide tape Width 20mm and Thickness 2.5mm can be marked as GST20*2.5



5. Guide tape width calculation

Overall width $\geq (\text{Maximum radial load} \times \text{Safety factor}) \div (\text{Carrying capacity at a given temperature and speed} \times \text{Rod/Bore Diameter})$

The carrying capacity of the guide ring is the anti-squeezing capacity of the guide ring, that is, the anti-biased load capacity of the cylinder. It is directly related to the speed and temperature of the cylinder movement, and the carrying capacity will decline rapidly if the speed is high or the temperature is high. At room temperature (speed 1.0m/s), the carrying capacity of DMS's PTFE guide ring can be 15MPa, and when the temperature is increased by 20°C, the carrying capacity is reduced by about 1/4 to 1/3.

If the width of one guide belt is insufficient, multiple strips of the same width or different widths can be used together. But if multiple guide rings are used, the carrying capacity should have a loss rate, which is recommended to take 0.9

6. Guide tape Length calculation

Piston guide tape: Overall length $= (\text{Piston diameter } D - 2.5) \times 3.142 - 0.04 \times D$

Rod guide tape: Overall length $= (\text{Rod diameter } d + 2.5) \times 3.142 - 0.04 \times d$

7. Related Dimensions

$R1 = 0.2 \sim 0.3, R2 = 0.3 \sim 0.5;$

8. Dimension tolerance

In order to facilitate installation and have appropriate guiding capability, the thickness tolerance of the guiding belt is negative, and the numerical value should not be greater than 2% of its thickness, and the width tolerance should also be negative, and the numerical value is 1-3% of the width



9. Related Dimensions

Standard thickness of product

Thickness W	1.0	1.5	1.55	2.0	2.5		3.0	4.0	5.0	6.0
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The products of various thickness could be provided.

Length of whole roll

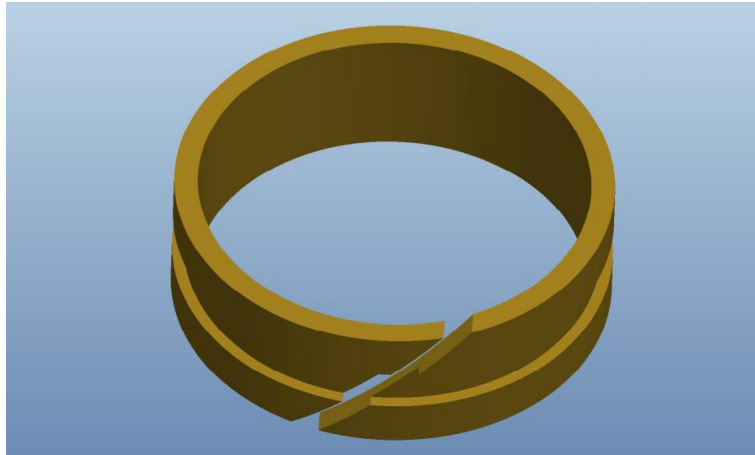
Thickness	1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0
Length of whole roll (m)	55	35	27	22	18	13	10	8

Above data only for your reference, it shall follow the actual products.

Standard groove width

Groove Width L	2.5	3.2	4	4.2	5.6	6.0	6.3	8.1	9.7	10	12	15	18	20	25	30	40	50
----------------	-----	-----	---	-----	-----	-----	-----	-----	-----	----	----	----	----	----	----	----	----	----

The products of various width could be provided.



1. Application and properties

Suitable for rod guide and plays a supporting and guiding role for the rod. It has excellent vibration damping performance, simple and firm installation, and the pairing of metal and plastic materials can prevent "stagnation" and "bite death" phenomenon.

With a built-in axial positioning step in the middle, the two ends can be in contact with or open to the sealing element, which greatly saves installation space and is commonly used in oil/gas cylinders with limited axial dimensions.

Advantages: The radial size is large, even if the wear deformation is a certain amount, it can be a good isolation rod and hole, prevent them from contacting, and have a good protection for the rod.

2. Standard material

Filled PTFE / PA / POM

3. Working conditions

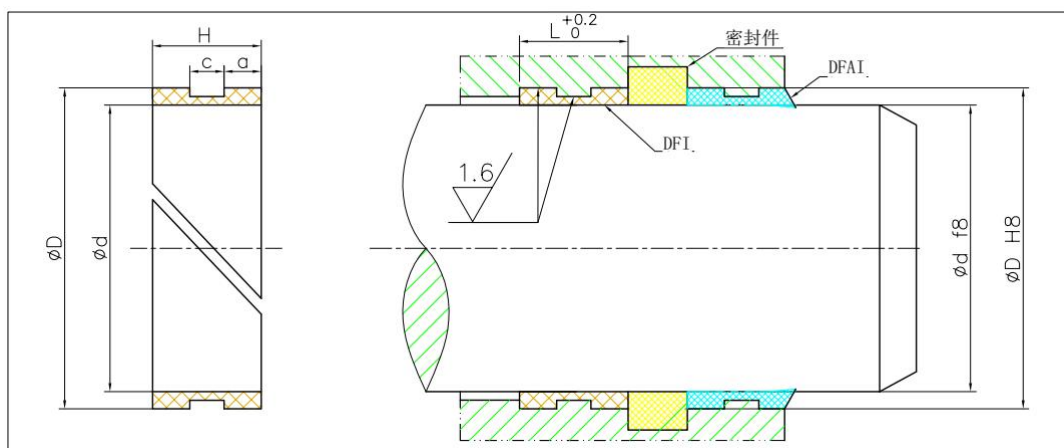
Working conditions			
Diameter Range	Temperature Range°C	Speed	Medium
20 ~ 2000mm	-200 ~ 250°C	15m/s	General hydraulic oil, emulsion, water

4. Marking method

Mark with the dimensions of installation groove

For example, guide ring for $\phi 100$ rod is marked as DFI100×110×24

DFI



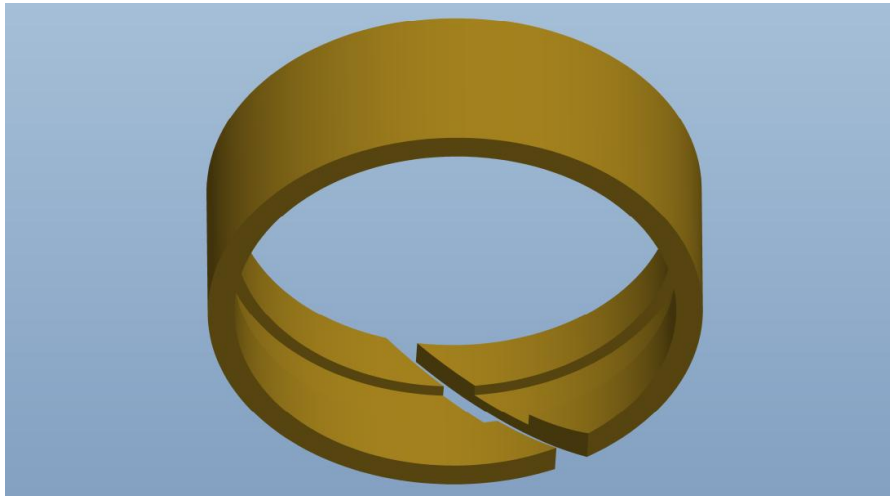
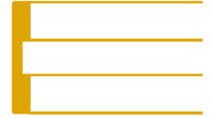
5. Installation Dimensions

d	D	D1	H	c	a	Part No.
20	26	23	19	6	6.5	DFI0200
22	28	25	19	6	6.5	DFI0220
25	31	28	19	6	6.5	DFI0250
28	34	31	19	6	6.5	DFI0280
30	36	33	19	6	6.5	DFI0300
36	42	39	19	6	6.5	DFI0360
40	46	43	19	6	6.5	DFI0400
42	48	45	19	6	6.5	DFI0420
45	51	48	19	6	6.5	DFI0450
50	56	53	19	6	6.5	DFI0500
55	61	58	19	6	6.5	DFI0550
56	62	59	19	6	6.5	DFI0560
60	70	65	24	7	8.5	DFI0600
63	73	68	24	7	8.5	DFI0630
65	75	70	24	7	8.5	DFI0650
70	80	75	24	7	8.5	DFI0700
72	82	77	24	7	8.5	DFI0720
75	85	80	24	7	8.5	DFI0750
80	90	85	24	7	8.5	DFI0800
85	95	90	24	7	8.5	DFI0850
90	100	95	24	7	8.5	DFI0900
95	105	100	24	7	8.5	DFI0950
96	106	101	24	7	8.5	DFI0960
100	110	105	24	7	8.5	DFI1000

Installation Dimensions

d	D	D1	H	c	a	Part No.
100	110	105	24	7	8.5	DFI1000
105	115	110	24	7	8.5	DFI1050
110	120	115	24	7	8.5	DFI1100
115	125	120	24	7	8.5	DFI1150
120	130	125	24	7	8.5	DFI1200
125	135	130	24	7	8.5	DFI1250
130	140	135	24	7	8.5	DFI1300
140	150	145	24	7	8.5	DFI1400
150	162	156	35	15	10	DFI1500
155	167	161	35	15	10	DFI1550
160	172	166	35	15	10	DFI1600
165	177	171	35	15	10	DFI1650
170	182	176	35	15	10	DFI1700
180	192	186	35	15	10	DFI1800
190	202	196	35	15	10	DFI1900
200	212	206	35	15	10	DFI2000
220	232	226	35	15	10	DFI2200
225	237	231	35	15	10	DFI2250
240	252	246	35	15	10	DFI2400
250	262	256	35	15	10	DFI2500
280	292	286	35	15	10	DFI2800
300	312	306	35	15	10	DFI3000
350	362	356	35	15	10	DFI3500
400	412	406	35	15	10	DFI4000
450	462	456	35	15	10	DFI4500
500	512	506	35	15	10	DFI5000
600	612	606	35	15	10	DFI6000
630	642	636	35	15	10	DFI6300

DFA



1. Application and properties

Suitable for piston guide and plays a supporting and guiding role for piston. It has excellent vibration damping performance, simple and firm installation, and the pairing of metal and plastic materials can prevent "stagnation" and "bite death" phenomenon.

With a built-in axial positioning step in the middle, the two ends can be in contact with or open to the sealing element, which greatly saves installation space and is commonly used in oil/gas cylinders with limited axial dimensions.

Advantages: The radial size is large, even if the wear deformation is a certain amount, it can be a good isolation piston and hole, prevent them from contacting, and have a good protection for the hole.

2. Standard material

Filled PTFE / PA / POM

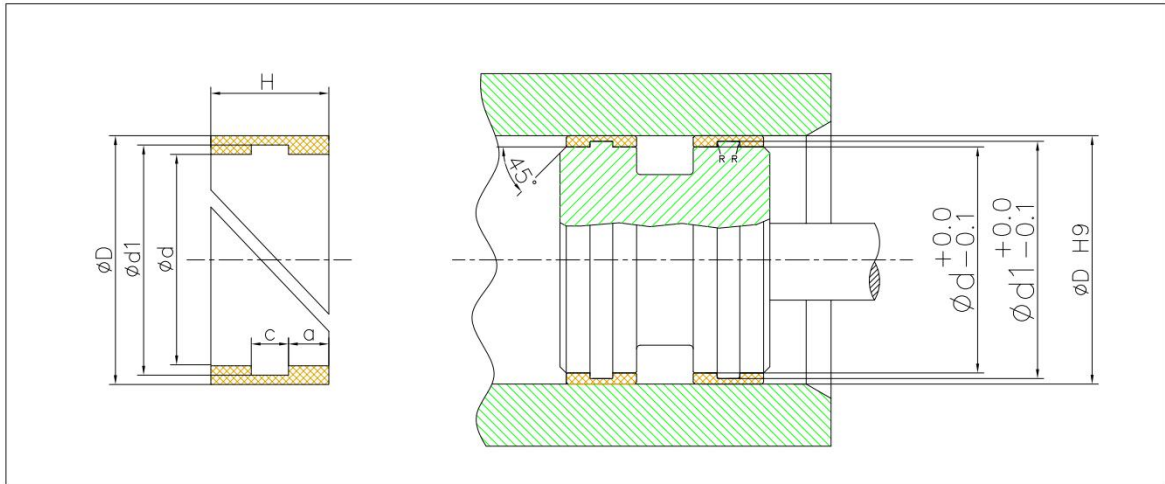
3. Working conditions

Working conditions			
Diameter Range	Temperature Range°C	Speed	Medium
40 ~ 1000mm	-200 ~ 250°C	15m/s	General hydraulic oil, emulsion, water

4. Marking method

Mark with the dimensions of installation groove as below:

For example, the standard $\phi 100$ guide ring for piston is marked as DFA100×92×14



5. Installation Dimensions

D	d	d1	H	c	a	Part No.
40	32	36	12	3	4.7	DFA0400
45	37	41	12	3	4.7	DFA0450
50	42	46	12	3	6.2	DFA0500
55	47	51	12	3	6.2	DFA0550
56	48	52	12	3	6.2	DFA0560
57	49	53	12	3	6.2	DFA0570
58	50	54	12	3	6.2	DFA0580
60	52	56	12	3	6.2	DFA0600
63	55	59	12	3	6.2	DFA0630
65	57	61	12	3	6.2	DFA0650
70	62	66	12	3	6.2	DFA0700
75	67	71	12	3	6.2	DFA0750
80	72	76	14	3	7.2	DFA0800
85	77	81	14	3	7.2	DFA0850
90	82	86	14	3	7.2	DFA0900
95	87	91	14	3	7.2	DFA0950
100	92	96	14	3	7.2	DFA1000
105	97	101	14	3	7.2	DFA1050
110	102	106	14	3	7.2	DFA1000
115	107	111	14	3	7.2	DFA1150
120	112	116	14	3	7.2	DFA1200
125	115	121	17.5	4	9.2	DFA1250
130	120	126	17.5	4	4.3	DFA1300
135	125	131	17.5	4	9.2	DFA1350

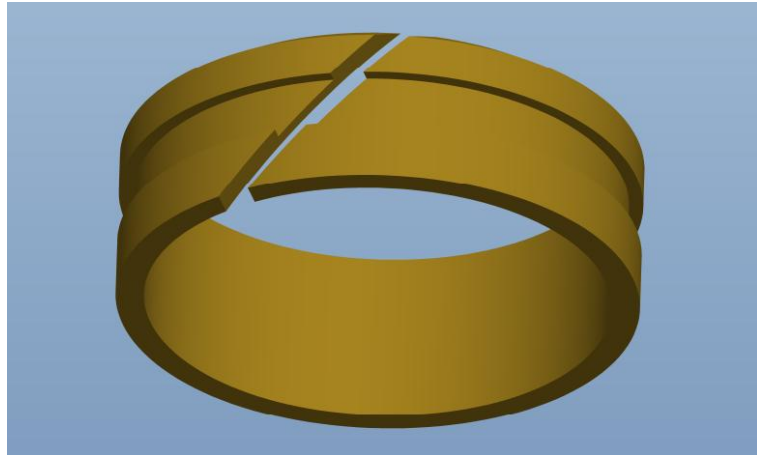
DFA



Installation Dimensions

D	d	d1	H	c	a	Part No.
140	130	136	17.5	4	9.2	DFA1400
145	135	141	17.5	4	9.2	DFA1450
150	140	146	17.5	4	9.2	DFA1500
155	145	151	17.5	4	9.2	DFA1550
160	150	156	17.5	4	9.2	DFA1600
170	160	166	20	6	9.2	DFA1700
180	170	176	20	6	9.2	DFA1800
190	180	186	20	4.5	11.7	DFA1900
200	190	196	20	4.5	11.7	DFA2000
210	200	206	25	8	11.7	DFA2100
220	210	216	25	8	11.7	DFA2200
225	215	221	25	8	11.7	DFA2250
230	220	226	25	8	11.7	DFA2300
250	240	246	33	15	11.7	DFA2500
265	255	261	33	15	11.7	DFA2650
280	270	276	33	15	11.7	DFA2800
300	290	296	33	15	11.7	DFA3000
350	338	344	35	8.5	13.25	DFA3500
400	388	394	35	8.5	13.25	DFA4000
450	438	444	35	8.5	13.25	DFA4500
500	488	494	35	8.5	13.25	DFA5000
560	548	554	35	8.5	13.25	DFA5600
600	588	594	35	8.5	13.25	DFA6000
650	638	644	35	8.5	13.25	DFA6500
700	688	694	35	8.5	13.25	DFA7000
800	788	794	35	8.5	13.25	DFA8000
1000	988	994	35	8.5	13.25	DFA10000

H



1. Application and properties

Suitable for rod guide and plays a supporting and guiding role for the rod. It has excellent vibration damping performance, simple and firm installation, and the pairing of metal and plastic materials can prevent "stagnation" and "bite death" phenomenon..

With a built-in axial positioning step in the middle, the two ends can be in contact with or open to the sealing element, which greatly saves installation space and is commonly used in oil/gas cylinders with limited axial dimensions.

Advantages: The radial size is large, even if the wear deformation is a certain amount, it can be a good isolation rod and hole, prevent them from contacting, and have a good protection for the rod.

2. Standard material

Filled PTFE / PA /POM

3. Working conditions

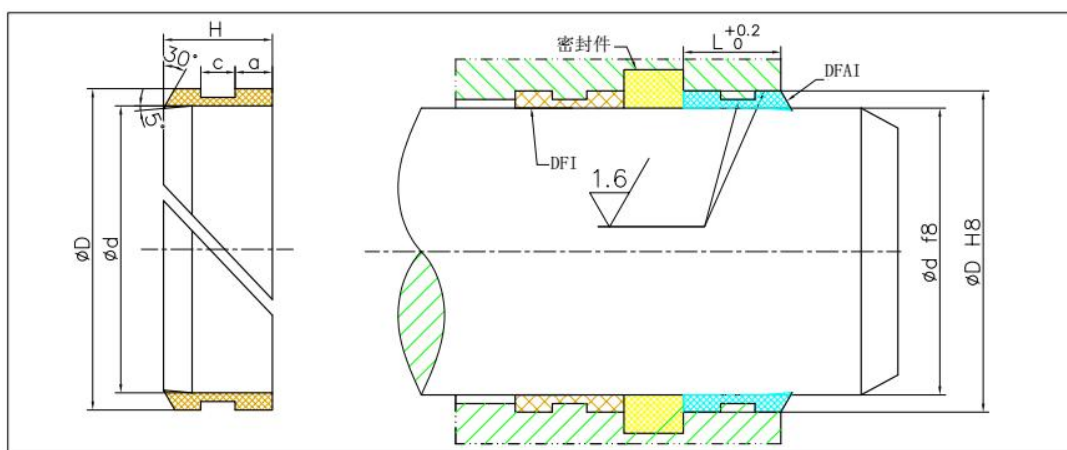
Working conditions			
Diameter Range	Temperature Range°C	Speed	Medium
40 ~ 2000mm	-200 ~ 250°C	15m/s	General hydraulic oil, emulsion, water

4. Marking method

Mark it with the dimensions of installation groove as below:

For example, the standard $\phi 100$ guide ring with scraper for rod is marked as DFAI100×110×24.

DFAI



5. Installation Dimensions

d	D	D1	H	L	c	a	Part No.
28	34	31	19	17	6	6.5	DFAI0280
30	36	33	19	17	6	6.5	DFAI0300
36	42	39	19	17	6	6.5	DFAI0360
40	46	43	19	17	6	6.5	DFAI0400
42	48	45	19	17	6	6.5	DFAI0420
45	51	48	19	17	6	6.5	DFAI0450
50	56	53	19	17	6	6.5	DFAI0500
55	61	58	19	17	6	6.5	DFAI0550
56	62	59	19	17	6	6.5	DFAI0560
60	70	65	24	21	7	8.5	DFAI0600
63	73	68	24	21	7	8.5	DFAI0630
65	75	70	24	21	7	8.5	DFAI0650
70	80	75	24	21	7	8.5	DFAI0700
72	82	77	24	21	7	8.5	DFAI0720
75	85	80	24	21	7	8.5	DFAI0750
80	90	85	24	21	7	8.5	DFAI0800
85	95	90	24	21	7	8.5	DFAI0850
90	100	95	24	21	7	8.5	DFAI0900
95	105	100	24	21	7	8.5	DFAI0950
100	110	105	24	21	7	8.5	DFAI1000
105	115	110	24	21	7	8.5	DFAI1050
110	120	115	24	21	7	8.5	DFAI1100
115	125	120	24	21	7	8.5	DFAI1150

Installation Dimensions

d	D	D1	H	L	c	a	Part No.
120	130	125	24	21	7	8.5	DFAI1200
125	135	130	24	21	7	8.5	DFAI1250
130	140	135	24	21	7	8.5	DFAI1300
140	150	145	24	21	7	8.5	DFAI1400
150	162	156	35	31	15	10	DFAI1500
160	172	166	35	31	15	10	DFAI1600
165	177	171	35	31	15	10	DFAI1650
170	182	176	35	31	15	10	DFAI1700
180	192	186	35	31	15	10	DFAI1800
190	202	196	35	31	15	10	DFAI1900
200	212	206	35	31	15	10	DFAI2000
220	232	226	35	31	15	10	DFAI2200
225	237	231	35	31	15	10	DFAI2250
240	252	246	35	31	15	10	DFAI2400
250	262	256	35	31	15	10	DFAI2500
260	272	266	35	31	15	10	DFAI2600
280	292	286	35	31	15	10	DFAI2800
290	302	296	35	31	15	10	DFAI2900
300	312	306	35	31	15	10	DFAI3000
320	332	326	35	31	15	10	DFAI3200
350	362	356	35	31	15	10	DFAI3500
360	372	366	35	31	15	10	DFAI3600
380	392	386	35	31	15	10	DFAI4000
400	412	406	35	31	15	10	DFAI4000
450	462	456	35	31	15	10	DFAI4500
500	512	506	35	31	15	10	DFAI5000
600	612	606	35	31	15	10	DFAI6000
630	642	636	35	31	15	10	DFAI6300

Wiper & Dust Ring



1. Application and properties

Generally used in oil cylinders for construction machinery, walking machinery, metallurgical machinery, and other harsh working environments with a lot of dust. Especially in hydraulic systems, when there are more impurities in the hydraulic oil for various reasons, it is necessary to consider installing a dirt-exclusion ring to protect the sealing elements.

The dust ring is used in combination with the piston seal and the anti-wear ring to prevent the oil in the cylinder from being damaged by impurities with greater hardness. At the same time, the main seal and the sealing space are isolated, which can effectively prevent the diesel effect from ablating the main seal to protect the main seal. When used in combination with the rod seal and metal bushing, it can prevent damage to the rod. At the same time, all ports and oil pressure bypass grooves can prevent the accumulation of oil pressure.

Small friction coefficient, it does not affect the performance of the oil cylinder.

It can be used in special working conditions such as extremely high speed, extremely low speed, and micro-stroke. With an open structure, it is easy to install.

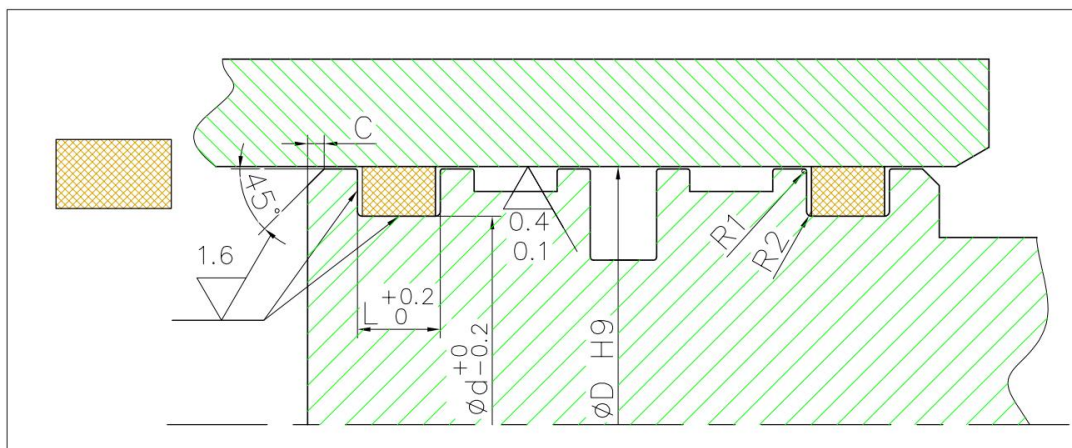
2. Standard material

Filled PTFE

3. Working conditions

Working conditions			
Diameter Range	Temperature Range°C	Speed	Medium
20 ~ 2000mm	-200 ~ 250°C	15m/s	Hydraulic oil, flame retardant liquid, water and otehrs

KZT



4. Related Dimensions

$R1=0.2 \sim 0.5, R2=0.2 \sim 1$. The specific value is selected according to the size of the section of the seal and the remaining values are listed in the Installation Dimensions table.

5. Marking method

Mark with the dimensions of installation groove

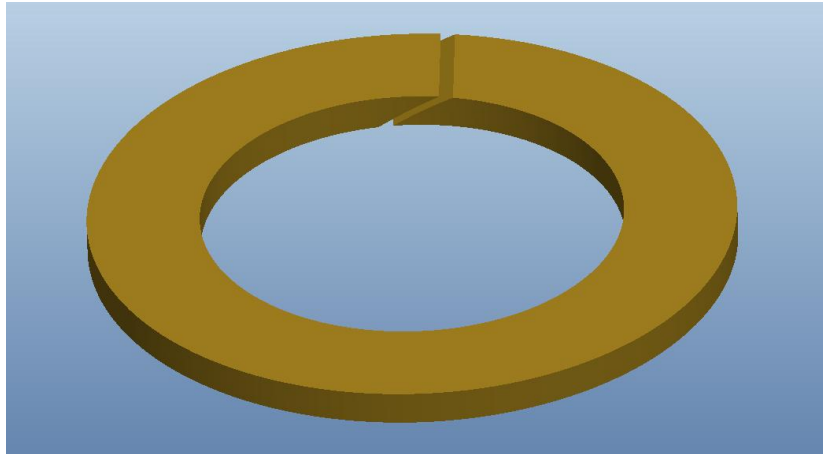
For example, the standard $\phi 100$ dust ring is marked as KZT100×92×6.3

6. Installation Dimensions

Bore Dia.	Groove Dia.	Groove Width	Part No.
D	d	L	
70	62	4.2	KZT70×4.2
75	67	4.2	KZT75×4.2
80	72	4.2	KZT80×4.2
85	77	4.2	KZT85×4.2
90	82	4.2	KZT90×4.2
80	72	6.3	KZT80×6.3
85	77	6.3	KZT85×6.3
90	82	6.3	KZT90×6.3
95	87	6.3	KZT95×6.3
100	92	6.3	KZT100×6.3
105	97	6.3	KZT105×6.3
110	102	6.3	KZT110×6.3
115	107	6.3	KZT115×6.3
120	112	6.3	KZT120×6.3
125	117	6.3	KZT125×6.3
130	122	6.3	KZT130×6.3
135	127	6.3	KZT135×6.3
140	132	6.3	KZT140×6.3
145	137	6.3	KZT145×6.3
150	142	6.3	KZT150×6.3
160	152	6.3	KZT160×6.3
170	162	6.3	KZT170×6.3
180	172	6.3	KZT180×6.3
190	182	6.3	KZT190×6.3
100	92	8.1	KZT100×8.1
105	97	8.1	KZT105×8.1
110	102	8.1	KZT110×8.1
115	107	8.1	KZT115×8.1
120	112	8.1	KZT120×8.1
125	117	8.1	KZT125×8.1
130	122	8.1	KZT130×8.1
135	127	8.1	KZT135×8.1
140	132	8.1	KZT140×8.1
145	137	8.1	KZT145×8.1
150	142	8.1	KZT150×8.1

Bore Dia.	Groove Dia.	Groove Width	Part No.
D	d	L	
160	152	8.1	KZT160×8.1
170	162	8.1	KZT170×8.1
180	172	8.1	KZT180×8.1
190	182	8.1	KZT190×8.1
200	192	8.1	KZT200×8.1
100	92	9.7	KZT100×9.7
105	97	9.7	KZT105×9.7
110	102	9.7	KZT110×9.7
115	107	9.7	KZT115×9.7
120	112	9.7	KZT120×9.7
125	117	9.7	KZT125×9.7
130	122	9.7	KZT130×9.7
135	127	9.7	KZT135×9.7
140	132	9.7	KZT140×9.7
145	137	9.7	KZT145×9.7
150	142	9.7	KZT150×9.7
160	152	9.7	KZT160×9.7
170	162	9.7	KZT170×9.7
180	172	9.7	KZT180×9.7
190	182	9.7	KZT190×9.7
200	192	9.7	KZT200×9.7
90	82	15	KZT090×15
95	87	15	KZT095×15
100	92	15	KZT100×15
105	97	15	KZT105×15
110	102	15	KZT110×15
115	107	15	KZT115×15
120	112	15	KZT120×15
125	117	15	KZT125×15
130	122	15	KZT130×15
135	127	15	KZT135×15
140	132	15	KZT140×15
145	137	15	KZT145×15
150	142	15	KZT150×15

Back-up Ring



1. Application and properties

Suitable for sealing of medium and high pressure cylinders, installed behind the sealing element (U-shaped seal) to prevent the sealing element from being squeezed out. The sealing element with the installed back-up ring generally has a pressure-bearing capacity increased by 10-30MPa compared to the sealing element without back-up ring. It has high performance and cost-effectiveness ratio and has been widely used.

The adaptability to both medium and working conditions can be achieved by selecting appropriate materials, making it suitable for use in various working environments.

Back-up rings can be divided into two types: open-end and closed-end. If installing a closed-end ring is particularly difficult or even impossible, an open-end ring should be used. Otherwise, a closed-end ring should be used whenever possible.

2. Standard material

Filled PTFE / PA / POM / PU / Rubber, etc. are all commonly used materials for back-up rings.

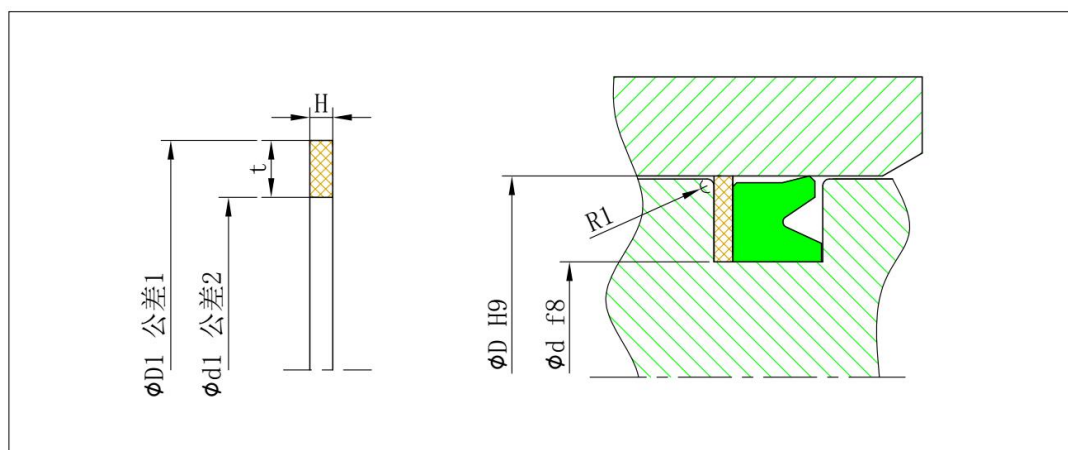
Select according to actual working conditions.

Generally, U-shaped rings use a back-up ring filled with PTFE, filled with PA or fill with POM

3. Working conditions

Working conditions			
Diameter Range	Temperature Range°C	Speed	Medium
5 ~ 2000mm	-200 ~ 250°C	15m/s	Hydraulic oil, water flame retardant liquid,

BRT



4. Marking method

Mark it with the dimension of installation as below:

When used for piston seals: "BRT" Outer diameter×Inner diameter×Thickness

For example: BRT80×70×2.5 means "Back-up ring for piston seal, Outer Dia. 80, Inner Dia. 70, Thickness 2.5"

When used for rod seals: "BRT" Inner diameter×Outer diameter×Thickness

For example: BRT220×224×2 means "Back-up ring for rod seal, Outer Dia. 224, Inner Dia. 220, Thickness 2.0"

A large, solid yellow rectangle occupies the center of the page. Inside this rectangle, the text "O-Ring" is written in a large, black, sans-serif font.

O-Ring

O - Ring



1. Application and properties

O-rings are the most used seals in actual production and life, which can seal one-way pressure, two-way pressure or alternating pressure. They are mainly used for static sealing, and some are used for dynamic sealing (usually for pneumatic reciprocating motion). In dynamic applications, they are only recommended for better working conditions. In rotating motion, if the pressure is low and the lubrication is sufficient, they can be recommended for use.

The service life of O-rings depends on the lubrication conditions of the system, pressure, temperature, sealing clearance, speed, medium, and surface quality of metal parts and other factors.

A wide range of materials, all kinds of rubber, plastic and even metal can be used as O-Ring materials. Therefore, its medium adaptability and temperature adaptability are extremely wide.

They have small installation groove sizes and a simple structure, with relatively low prices.

2. Standard material

NBR / FKM

3. Performance parameter

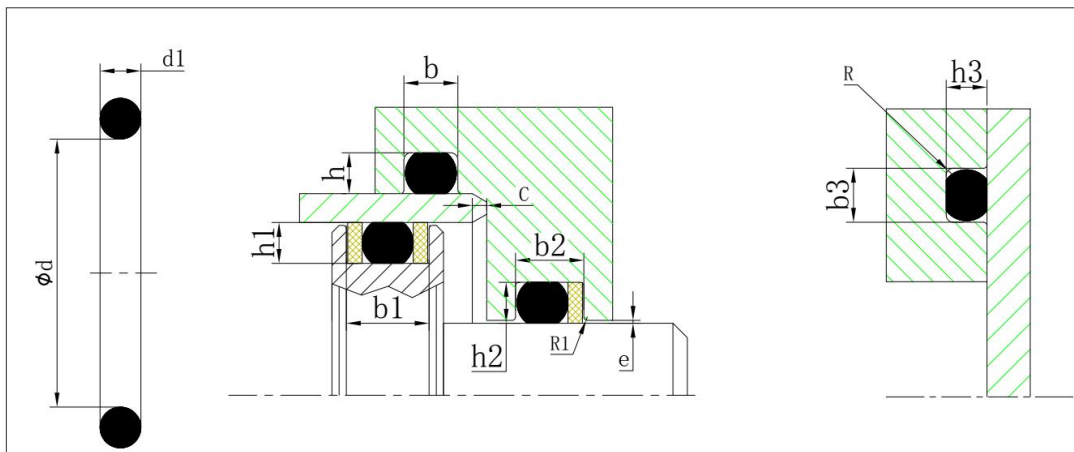
	Static Seal	Dynamic Seal
Working Pressure	Without back-up ring, up to 10MPa. With the back-up ring, up to 40MPa. With special back-up ring, up to 200MPa.	Without back-up ring, up to 0.5MPa With the back-up ring, up to 1MPa
Movement Speed	-	Maximum reciprocating speed up to 0.3m/s, Maximum rotation speed up to 0.3m/s
Temperaure	NBR: -30°C ~ 110°C; FKM: -20°C ~ 160°C, VMQ: -60°C ~ 180°C	

4. Marking method

Inner Diameter d×Wire Diameter (O-Ring cross section Dia.) d1



O - Ring



5. Related Dimensions

$R1=0.1 \sim 0.5$, $R2=0.2 \sim 1$; $e=0.05 \sim 0.2$; $h=(0.70 \sim 0.90)d1$, Generally static sealing takes close to the small value ($0.70 \sim 0.80$), the dynamic seal takes close to the large value ($0.85 \sim 0.90$); $b=(1.20 \sim 1.35)d1$. The specific values are selected according to the section size of the seal.

6. Tolerance

O-Ring Wire Diameter Tolerance:

Wire diameter of O-Ring $d1/mm$	Tolerance $\pm mm$	Wire diameter of O-Ring $d1/mm$	Tolerance $\pm mm$
0-1.8	0.08	5.30-6.99	0.15
1.80-2.65	0.09	6.99-8.00	0.18
2.65-3.55	0.1	8.00-10.00	0.21
3.55-5.30	0.13	10.00-12.00	0.25

O - Ring



Inner diameter tolerance

Inner Dia.	Tolerance	Inner Dia.	Tolerance	Inner Dia.	Tolerance
d mm	± mm	d mm	± mm	d mm	± mm
0.70 ~ 2.50	0.13	65.00 ~ 67.00	0.59	212.00 ~ 218.00	1.67
2.50 ~ 4.50	0.14	67.00 ~ 69.00	0.61	218.00 ~ 224.00	1.71
4.50 ~ 6.30	0.15	69.00 ~ 71.00	0.63	224.00 ~ 230.00	1.75
6.30 ~ 8.50	0.16	71.00 ~ 73.00	0.64	230.00 ~ 236.00	1.79
8.50 ~ 10.00	0.17	73.00 ~ 75.00	0.66	236.00 ~ 243.00	1.83
10.00 ~ 11.20	0.18	75.00 ~ 77.50	0.67	243.00 ~ 250.00	1.88
11.20 ~ 14.00	0.19	77.50 ~ 80.00	0.69	250.00 ~ 258.00	1.93
14.00 ~ 16.00	0.20	80.00 ~ 82.50	0.71	258.00 ~ 265.00	1.98
16.00 ~ 18.00	0.21	82.50 ~ 85.00	0.73	265.00 ~ 272.00	2.02
18.00 ~ 20.00	0.22	85.00 ~ 87.50	0.75	272.00 ~ 280.00	2.08
20.00 ~ 21.20	0.23	87.50 ~ 90.00	0.77	280.00 ~ 290.00	2.14
21.20 ~ 23.60	0.24	90.00 ~ 92.50	0.79	290.00 ~ 300.00	2.21
23.60 ~ 25.00	0.25	92.50 ~ 95.00	0.81	300.00 ~ 307.00	2.25
25.00 ~ 26.50	0.26	95.00 ~ 97.50	0.83	307.00 ~ 315.00	2.30
26.50 ~ 28.00	0.28	97.50 ~ 100.00	0.84	315.00 ~ 325.00	2.37
28.00 ~ 30.00	0.29	100.00 ~ 103.00	0.87	325.00 ~ 335.00	2.43
30.00 ~ 31.50	0.31	103.00 ~ 106.00	0.89	335.00 ~ 345.00	2.49
31.50 ~ 33.50	0.32	106.00 ~ 109.00	0.91	345.00 ~ 355.00	2.56
33.50 ~ 34.50	0.33	109.00 ~ 112.00	0.93	355.00 ~ 365.00	2.62
34.50 ~ 35.50	0.34	112.00 ~ 115.00	0.95	365.00 ~ 375.00	2.68
35.50 ~ 36.50	0.35	115.00 ~ 118.00	0.97	375.00 ~ 387.00	2.76
36.50 ~ 37.50	0.36	118.00 ~ 122.00	1.00	387.00 ~ 400.00	2.84
37.50 ~ 38.70	0.37	122.00 ~ 125.00	1.03	400.00 ~ 412.00	2.91
38.70 ~ 40.00	0.38	125.00 ~ 128.00	1.05	412.00 ~ 425.00	2.99
40.00 ~ 41.20	0.39	128.00 ~ 132.00	1.08	425.00 ~ 437.00	3.07
41.20 ~ 42.50	0.40	132.00 ~ 136.00	1.10	437.00 ~ 450.00	3.15
42.50 ~ 43.70	0.41	136.00 ~ 140.00	1.13	450.00 ~ 462.00	3.22
43.70 ~ 45.00	0.42	140.00 ~ 145.00	1.17	462.00 ~ 475.00	3.30
46.00 ~ 46.20	0.43	145.00 ~ 150.00	1.20	475.00 ~ 485.00	3.37
46.20 ~ 47.50	0.44	150.00 ~ 155.00	1.24	485.00 ~ 500.00	3.45
47.50 ~ 48.70	0.45	155.00 ~ 160.00	1.27	500.00 ~ 515.00	3.54
48.70 ~ 50.00	0.46	160.00 ~ 165.00	1.31	515.00 ~ 530.00	3.63
50.00 ~ 51.50	0.47	165.00 ~ 170.00	1.34	530.00 ~ 545.00	3.72
51.50 ~ 53.00	0.48	170.00 ~ 175.00	1.38	545.00 ~ 560.00	3.81
53.00 ~ 54.50	0.50	175.00 ~ 180.00	1.41	560.00 ~ 580.00	3.93
54.50 ~ 56.00	0.51	180.00 ~ 185.00	1.44	580.00 ~ 600.00	4.05
56.00 ~ 58.00	0.52	185.00 ~ 190.00	1.48	600.00 ~ 615.00	4.13
58.00 ~ 60.00	0.54	190.00 ~ 195.00	1.51	615.00 ~ 630.00	4.22
60.00 ~ 61.50	0.55	195.00 ~ 200.00	1.55	630.00 ~ 650.00	4.34
61.50 ~ 63.00	0.56	200.00 ~ 206.00	1.59	650.00 ~ 670.00	4.46
63.00 ~ 65.00	0.58	206.00 ~ 212.00	1.63		



O - Ring

7. Product Dimension (American Standard AS568)

Inner Dia.	Wire Dia.	Part No.	Inner Dia.	Wire Dia.	Part No.	Inner Dia.	Wire Dia.	Part No.	Inner Dia.	Wire Dia.	Part No.
d	d1		d	d1		d	d1		d	d1	
0.74	1.02	AS-001	107.67	1.78	AS-046	58.42	2.62	AS-141	12.29	3.53	AS-206
1.07	1.27	AS-002	114.02	1.78	AS-047	59.99	2.62	AS-142	13.87	3.53	AS-207
1.42	1.52	AS-003	120.37	1.78	AS-048	61.60	2.62	AS-143	15.47	3.53	AS-208
1.78	1.78	AS-004	126.72	1.78	AS-049	63.17	2.62	AS-144	17.04	3.53	AS-209
2.57	1.78	AS-005	133.07	1.78	AS-050	64.77	2.62	AS-145	18.64	3.53	AS-210
2.9	1.78	AS-006				66.34	2.62	AS-146	20.22	3.53	AS-211
3.68	1.78	AS-007	1.24	2.62	AS-102	67.95	2.62	AS-147	21.82	3.53	AS-212
4.47	1.78	AS-008	2.06	2.62	AS-103	69.52	2.62	AS-148	23.39	3.53	AS-213
5.28	1.78	AS-009	2.84	2.62	AS-104	71.12	2.62	AS-149	24.99	3.53	AS-214
6.07	1.78	AS-010	3.63	2.62	AS-105	72.69	2.62	AS-150	26.57	3.53	AS-215
7.65	1.78	AS-011	4.42	2.62	AS-106	75.87	2.62	AS-151	28.17	3.53	AS-216
9.25	1.78	AS-012	5.23	2.62	AS-107	82.22	2.62	AS-152	29.74	3.53	AS-217
10.82	1.78	AS-013	6.02	2.62	AS-108	88.57	2.62	AS-153	31.34	3.53	AS-218
12.42	1.78	AS-014	7.59	2.62	AS-109	94.92	2.62	AS-154	32.92	3.53	AS-219
14.00	1.78	AS-015	9.19	2.62	AS-110	101.27	2.62	AS-155	34.52	3.53	AS-220
15.60	1.78	AS-016	10.77	2.62	AS-111	107.62	2.62	AS-156	36.09	3.53	AS-221
17.17	1.78	AS-017	12.37	2.62	AS-112	113.97	2.62	AS-157	37.69	3.53	AS-222
18.77	1.78	AS-018	13.94	2.62	AS-113	120.32	2.62	AS-158	40.87	3.53	AS-223
20.35	1.78	AS-019	15.54	2.62	AS-114	126.67	2.62	AS-159	44.04	3.53	AS-224
21.95	1.78	AS-020	17.12	2.62	AS-115	133.02	2.62	AS-160	47.22	3.53	AS-225
23.52	1.78	AS-021	18.72	2.62	AS-116	139.37	2.62	AS-161	50.39	3.53	AS-226
25.12	1.78	AS-022	20.29	2.62	AS-117	145.72	2.62	AS-162	53.57	3.53	AS-227
26.70	1.78	AS-023	21.89	2.62	AS-118	152.07	2.62	AS-163	56.74	3.53	AS-228
28.30	1.78	AS-024	23.47	2.62	AS-119	158.42	2.62	AS-164	59.92	3.53	AS-229
29.87	1.78	AS-025	25.07	2.62	AS-120	164.77	2.62	AS-165	63.09	3.53	AS-230
31.47	1.78	AS-026	26.64	2.62	AS-121	171.12	2.62	AS-166	66.27	3.53	AS-231
33.05	1.78	AS-027	28.24	2.62	AS-122	177.47	2.62	AS-167	69.44	3.53	AS-232
34.65	1.78	AS-028	29.82	2.62	AS-123	183.82	2.62	AS-168	72.62	3.53	AS-233
37.82	1.78	AS-029	31.42	2.62	AS-124	190.17	2.62	AS-169	75.79	3.53	AS-234
41.00	1.78	AS-030	32.99	2.62	AS-125	196.52	2.62	AS-170	78.97	3.53	AS-235
44.17	1.78	AS-031	34.59	2.62	AS-126	202.87	2.62	AS-171	82.14	3.53	AS-236
47.35	1.78	AS-032	36.17	2.62	AS-127	209.22	2.62	AS-172	85.32	3.53	AS-237
50.52	1.78	AS-033	37.77	2.62	AS-128	215.57	2.62	AS-173	88.49	3.53	AS-238
53.70	1.78	AS-034	39.34	2.62	AS-129	221.92	2.62	AS-174	91.67	3.53	AS-239
56.87	1.78	AS-035	40.94	2.62	AS-130	228.27	2.62	AS-175	94.84	3.53	AS-240
60.05	1.78	AS-036	42.52	2.62	AS-131	234.62	2.62	AS-176	98.02	3.53	AS-241
63.22	1.78	AS-037	44.12	2.62	AS-132	240.97	2.62	AS-177	101.19	3.53	AS-242
66.4	1.78	AS-038	45.69	2.62	AS-133	247.32	2.62	AS-178	104.37	3.53	AS-243
69.57	1.78	AS-039	47.29	2.62	AS-134	253.67	2.62	AS-179	107.54	3.53	AS-244
72.75	1.78	AS-040	48.90	2.62	AS-135				110.72	3.53	AS-245
75.92	1.78	AS-041	50.47	2.62	AS-136	4.34	3.53	AS-201	113.89	3.53	AS-246
82.27	1.78	AS-042	52.07	2.62	AS-137	5.94	3.53	AS-202	117.07	3.53	AS-247
88.62	1.78	AS-043	53.64	2.62	AS-138	7.52	3.53	AS-203	120.24	3.53	AS-248
94.97	1.78	AS-044	55.25	2.62	AS-139	9.12	3.53	AS-204	123.42	3.53	AS-249
101.32	1.78	AS-045	56.82	2.62	AS-140	10.69	3.53	AS-205	126.59	3.53	AS-250

O - Ring



Product Dimension (American Standard AS568)

Inner Dia.	Wire Dia.	Part No.	Inner Dia.	Wire Dia.	Part No.	Inner Dia.	Wire Dia.	Part No.	Inner Dia.	Wire Dia.	Part No..
d	d1		d	d1		d	d1		d	d1	
129.77	3.53	AS-251	24.77	5.33	AS-318	158.12	5.33	AS-362	142.24	6.99	AS-434
132.94	3.53	AS-252	26.34	5.33	AS-319	164.47	5.33	AS-363	145.42	6.99	AS-435
136.12	3.53	AS-253	27.94	5.33	AS-320	170.82	5.33	AS-364	148.59	6.99	AS-436
139.29	3.53	AS-254	29.51	5.33	AS-321	177.17	5.33	AS-365	151.77	6.99	AS-437
142.47	3.53	AS-255	31.12	5.33	AS-322	183.52	5.33	AS-366	158.12	6.99	AS-438
145.64	3.53	AS-256	32.69	5.33	AS-323	189.87	5.33	AS-367	164.47	6.99	AS-439
148.82	3.53	AS-257	34.29	5.33	AS-324	196.22	5.33	AS-368	170.82	6.99	AS-440
151.99	3.53	AS-258	37.47	5.33	AS-325	202.57	5.33	AS-369	177.17	6.99	AS-441
158.34	3.53	AS-259	40.64	5.33	AS-326	208.92	5.33	AS-370	183.52	6.99	AS-442
164.69	3.53	AS-260	43.82	5.33	AS-327	215.27	5.33	AS-371	189.87	6.99	AS-443
171.04	3.53	AS-261	46.99	5.33	AS-328	221.62	5.33	AS-372	196.22	6.99	AS-444
177.39	3.53	AS-262	50.17	5.33	AS-329	227.97	5.33	AS-373	202.57	6.99	AS-445
183.74	3.53	AS-263	53.34	5.33	AS-330	234.32	5.33	AS-374	215.27	6.99	AS-446
190.09	3.53	AS-264	56.52	5.33	AS-331	240.67	5.33	AS-375	227.97	6.99	AS-447
196.44	3.53	AS-265	59.69	5.33	AS-332	247.02	5.33	AS-376	240.67	6.99	AS-448
202.79	3.53	AS-266	62.87	5.33	AS-333	253.37	5.33	AS-377	253.37	6.99	AS-449
209.14	3.53	AS-267	66.04	5.33	AS-334	266.07	5.33	AS-378	266.07	6.99	AS-450
215.49	3.53	AS-268	69.22	5.33	AS-335	278.77	5.33	AS-379	278.77	6.99	AS-451
221.84	3.53	AS-269	72.39	5.33	AS-336	291.47	5.33	AS-380	291.47	6.99	AS-452
228.19	3.53	AS-270	75.57	5.33	AS-337	304.17	5.33	AS-381	304.17	6.99	AS-453
234.54	3.53	AS-271	78.74	5.33	AS-338	329.57	5.33	AS-382	316.87	6.99	AS-454
240.89	3.53	AS-272	81.92	5.33	AS-339	354.97	5.33	AS-383	329.57	6.99	AS-455
247.24	3.53	AS-273	85.09	5.33	AS-340	380.37	5.33	AS-384	342.27	6.99	AS-456
253.59	3.53	AS-274	88.27	5.33	AS-341	405.26	5.33	AS-385	354.87	6.99	AS-457
266.29	3.53	AS-275	91.44	5.33	AS-342	430.66	5.33	AS-386	367.67	6.99	AS-458
278.99	3.53	AS-276	94.62	5.33	AS-343	456.06	5.33	AS-387	380.37	6.99	AS-459
291.69	3.53	AS-277	97.79	5.33	AS-344	481.41	5.33	AS-388	393.07	6.99	AS-460
304.39	3.53	AS-278	100.97	5.33	AS-345	506.81	5.33	AS-389	405.26	6.99	AS-461
329.79	3.53	AS-279	104.14	5.33	AS-346	532.21	5.33	AS-390	417.96	6.99	AS-462
355.19	3.53	AS-280	107.32	5.33	AS-347	557.61	5.33	AS-391	430.66	6.99	AS-463
380.59	3.53	AS-281	110.49	5.33	AS-348	582.68	5.33	AS-392	443.36	6.99	AS-464
405.26	3.53	AS-282	113.67	5.33	AS-349	608.08	5.33	AS-393	456.06	6.99	AS-465
430.66	3.53	AS-283	116.84	5.33	AS-350	633.48	5.33	AS-394	468.76	6.99	AS-466
456.06	3.53	AS-284	120.02	5.33	AS-351	658.88	5.33	AS-395	481.46	6.99	AS-467
			123.19	5.33	AS-352				494.16	6.99	AS-468
10.46	5.33	AS-309	126.37	5.33	AS-353	113.67	6.99	AS-425	506.86	6.99	AS-469
12.07	5.33	AS-310	129.54	5.33	AS-354	116.84	6.99	AS-426	532.26	6.99	AS-470
13.64	5.33	AS-311	132.72	5.33	AS-355	120.02	6.99	AS-427	557.66	6.99	AS-471
15.24	5.33	AS-312	135.89	5.33	AS-356	123.19	6.99	AS-428	582.68	6.99	AS-472
16.81	5.33	AS-313	139.07	5.33	AS-357	126.37	6.99	AS-429	608.08	6.99	AS-473
18.42	5.33	AS-314	142.24	5.33	AS-358	129.54	6.99	AS-430	633.48	6.99	AS-474
19.99	5.33	AS-315	145.42	5.33	AS-359	132.72	6.99	AS-431	658.88	6.99	AS-475
21.59	5.33	AS-316	148.59	5.33	AS-360	135.89	6.99	AS-432			
23.16	5.33	AS-317	151.77	5.33	AS-361	139.07	6.99	AS-433			

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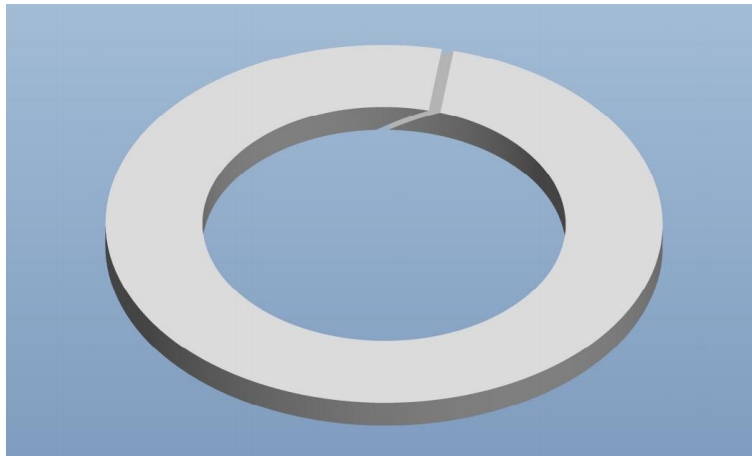


O - Ring

Product Dimension (Japanese Standard JIS B 2401)

Inner Dia.	Wire Dia.	Part No.	Inner Dia.	Wire Dia.	Part No.	Inner Dia.	Wire Dia.	Part No.	Inner Dia.	Wire Dia.	Part No.
d	d1		d	d1		d	d1		d	d1	
2.8	1.9	P3	43.7	3.5	P44	169.5	8.4	P170	54.4	3.1	G55
3.8	1.9	P4	44.7	3.5	P45	174.5	8.4	P175	59.4	3.1	G60
4.8	1.9	P5	45.7	3.5	P46	179.5	8.4	P180	64.4	3.1	G65
5.8	1.9	P6	47.7	3.5	P48	184.5	8.4	P185	69.4	3.1	G70
6.8	1.9	P7	48.7	3.5	P49	189.5	8.4	P190	74.4	3.1	G75
7.8	1.9	P8	49.7	3.5	P50	194.5	8.4	P195	79.4	3.1	G80
8.8	1.9	P9				199.5	8.4	P200	84.4	3.1	G85
9.8	1.9	P10	47.6	5.7	P48A	204.5	8.4	P205	89.4	3.1	G90
			49.6	5.7	P50A	208.5	8.4	P209	94.4	3.1	G95
9.8	2.4	P10A	51.6	5.7	P52	209.5	8.4	P210	99.4	3.1	G100
10.8	2.4	P11	52.6	5.7	P53	214.5	8.4	P215	104.4	3.1	G105
11.0	2.4	P11.2	54.6	5.7	P55	219.5	8.4	P220	109.4	3.1	G110
11.8	2.4	P12	55.6	5.7	P56	224.5	8.4	P225	114.4	3.1	G115
12.3	2.4	P12.5	57.6	5.7	P58	229.5	8.4	P230	119.4	3.1	G120
13.8	2.4	P14	59.6	5.7	P60	234.5	8.4	P235	124.5	3.1	G125
14.8	2.4	P15	61.6	5.7	P62	239.5	8.4	P240	129.4	3.1	G130
15.8	2.4	P16	62.6	5.7	P63	244.5	8.4	P245	134.4	3.1	G135
17.8	2.4	P18	64.6	5.7	P65	249.5	8.4	P250	139.4	3.1	G140
19.8	2.4	P20	66.6	5.7	P67	254.5	8.4	P255	144.4	3.1	G145
20.8	2.4	P21	69.6	5.7	P70	259.5	8.4	P260			
21.8	2.4	P22	70.6	5.7	P71	264.5	8.4	P265	149.3	5.7	G150
			74.6	5.7	P75	269.5	8.4	P270	154.3	5.7	G155
21.7	3.5	P22A	79.6	5.7	P80	274.5	8.4	P275	159.3	5.7	G160
22.1	3.5	P22.4	84.6	5.7	P85	279.5	8.4	P280	164.3	5.7	G165
23.7	3.5	P24A	89.6	5.7	P90	284.5	8.4	P285	169.3	5.7	G170
24.7	3.5	P25	94.6	5.7	P95	289.5	8.4	P290	174.3	5.7	G175
25.2	3.5	P25.5	99.6	5.7	P100	294.5	8.4	P295	179.3	5.7	G180
25.7	3.5	P26	101.6	5.7	P102	299.5	8.4	P300	184.3	5.7	G185
27.7	3.5	P28	104.6	5.7	P105	314.5	8.4	P315	189.3	5.7	G190
28.7	3.5	P29	109.6	5.7	P110	319.5	8.4	P320	194.3	5.7	G195
29.2	3.5	P29.5	111.6	5.7	P112	334.5	8.4	P335	199.3	5.7	G200
29.7	3.5	P30	114.6	5.7	P115	339.5	8.4	P340	209.3	5.7	G210
30.7	3.5	P31	119.6	5.7	P120	354.5	8.4	P355	219.3	5.7	G220
31.2	3.5	P31.5	124.6	5.7	P125	359.5	8.4	P360	229.3	5.7	G230
31.7	3.5	P32	129.6	5.7	P130	374.5	8.4	P375	239.3	5.7	G240
33.7	3.5	P34	131.6	5.7	P132	384.5	8.4	P385	249.3	5.7	G250
34.7	3.5	P35	134.6	5.7	P135	399.5	8.4	P400	259.3	5.7	G260
35.2	3.5	P35.5	144.6	5.7	P145				269.3	5.7	G270
35.7	3.5	P36	149.6	5.7	P150	24.4	3.1	G25	279.3	5.7	G280
37.7	3.5	P38				29.4	3.1	G30	289.3	5.7	G290
38.7	3.5	P39	149.5	8.4	P150A	34.4	3.1	G35	299.3	5.7	G300
39.7	3.5	P40	154.5	8.4	P155	39.4	3.1	G40			
40.7	3.5	P41	159.5	8.4	P160	44.4	3.1	G45			
41.7	3.5	P42	164.5	8.4	P165	49.4	3.1	G50			

Back-up ring for O-Ring (JIS B2407)



1. Application and properties

Suitable for medium and high-pressure sealing, installed behind the O-ring seal to prevent the extrusion of the sealing component. The sealing capacity of the sealing component with the installed back-up ring generally increases by 10-30 MPa compared to the sealing component without a back-up ring. The performance structure ratio and performance cost ratio are both high, and it has been widely used.

The adaptability to media and operating conditions can be met by choosing suitable materials, so it can be used in various working conditions.

According to whether they are open, back-up rings can be divided into open and non-open back-up rings. If it is particularly difficult to install non-open backup rings or cannot be installed at all, open back-up rings are used. Otherwise, non-open back-up rings are preferred.

2. Standard material

PTFE / PU / Rubber

3. Marking method

Mark with Part No. For example, P50, G50

Back-up ring for O-Ring

4. Product Dimensions (P series)

Back-up ring Part No.	Back-up ring Dimensions					Matched O-Ring Part No.
	Inner Diameter d		Outer Diameter D		Thickness	
	Size	Tolerance	Size	Tolerance	T	
P3	3	+0.15 -0	6	+0 -0.15	1.25 ±0.10	P3
P4	4		7			P4
P5	5		8			P5
P6	6		9			P6
P7	7		10			P7
P8	8		11			P8
P9	9		12			P9
P10	10		13			P10
P10A	10	+0.15 -0	14	+0 -0.15		P10A
P11	11		15			P11
P11.2	11		15.2			P11.2
P12	12		16			P12
P12.5	13		16.5			P12.5
P14	14		18			P14
P15	15		19			P15
P16	16		20			P16
P18	18		22			P18
P20	20		24			P20
P21	21		25			P21
P22	22		26			P22
P22A	22	+0.20 -0	28	+0 -0.20		P22A
P22.4	22		28.4			P22.4
P24	24		30			P24
P25	25		31			P25
P25.5	26		31.5			P25.5
P26	26		32			P26
P28	28		34			P28
P29	29		35			P29
P29.5	30		35.5			P29.5
P30	30		36			P30
P31	31		37			P31
P31.5	32		37.5			P31.5
P32	32		38			P32
P34	34		40			P34
P35	35		41			P35
P35.5	36		41.5			P35.5
P36	36		42			P36
P38	38		44			P38
P39	39		45			P39
P40	40		46			P40
P41	41		47			P41
P42	42		48			P42

Back-up ring for O-Ring



Product Dimensions (P series)

Back-up ring Part No.	Back-up ring Dimensions					Matched O-Ring Part No.
	Inner Diameter d		Outer Diameter D		Thickness	
	Size	Tolerance	Size	Tolerance	T	
P44	44	+0.20 -0	50	+0 -0.20	1.25 ±0.1	P44
P45	45		51			P45
P46	46		52			P46
P48	48		54			P48
P49	49		55			P49
P50	50	+0.25 -0	56	+0 -0.25	1.90 ±0.13	P50
P48A	48		58			P48A
P50A	50		60			P50A
P52	52		62			P52
P53	53		63			P53
P55	55		65			P55
P56	56		66			P56
P58	58		68			P58
P60	60		70			P60
P62	62		72			P62
P63	63		73			P63
P65	65		75			P65
P67	67		77			P67
P70	70		80			P70
P71	71		81			P71
P75	75		85			P75
P80	80		90			P80
P85	85		95			P85
P90	90		100			P90
P95	95		105			P95
P100	100		110			P100
P102	102		112			P102
P105	105		115			P105
P110	110		120			P110
P112	112		122			P112
P115	115		125			P115
P120	120		130			P120
P125	125		135			P125
P130	130		140			P130
P132	132		142			P132
P135	135		145			P135
P140	140		150			P140
P145	145		155			P145
P150	150		160			P150

K

Back-up ring for O-Ring

Product Dimensions (P series)

Back-up ring Part No.	Back-up ring Dimensions					Matched O-Ring Part No.
	Inner Diameter d		Outer Diameter D		Thickness	
	Size	Tolerance	Size	Tolerance	T	
P150A	150	+0.30 -0	165	+0 -0.30	2.75 ±0.15	P150A
P155	155		170			P155
P160	160		175			P160
P165	165		180			P165
P170	170		185			P170
P175	175		190			P175
P180	180		195			P180
P185	185		200			P185
P190	190		205			P190
P195	195		210			P195
P200	200		215			P200
P205	205		220			P205
P209	209		224			P209
P210	210		225			P210
P215	215		230			P215
P220	220		235			P220
P225	225		240			P225
P230	230		245			P230
P235	235		250			P235
P240	240		255			P240
P245	245		260			P245
P250	250		265			P250
P255	255		270			P255
P260	260		275			P260
P265	265		280			P265
P270	270		285			P270
P275	275		290			P275
P280	280		295			P280
P285	285		300			P285
P290	290		305			P290
P295	295		310			P295
P300	300		315			P300
P315	315		330			P315
P320	320		335			P320
P335	335		350			P335
P340	340		355			P340
P355	355		370			P355
P360	360		375			P360
P375	375		390			P375
P385	385		400			P385
P400	400		415			P400

Back-up ring for O-Ring



Product Dimensions (G series)

Back-up ring Part No.	Back-up ring Dimensions					Matched O-Ring Part No
	Inner Dia. d		Outer Dia. D		Thickness	
	Size	Tolerance	Size	Tolerance	T	
G25	25	+0.20 -0	30	+0 -0.20	1.25 ±0.10	G25
G30	30		35			G30
G35	35		40			G35
G40	40		45			G40
G45	45		50			G45
G50	50		55			G50
G55	55	+0.25 -0	60	+0 -0.25		G55
G60	60		65			G60
G65	65		70			G65
G70	70		75			G70
G75	75		80			G75
G80	80		85			G80
G85	85		90			G85
G90	90		95			G90
G95	95		100			G95
G100	100		105			G100
G105	105		110			G105
G110	110		115			G110
G115	115		120			G115
G120	120		125			G120
G125	125		130			G125
G130	130		135			G130
G135	135		140			G135
G140	140		145			G140
G145	145	150	G145			
G150	150	+0.30 -0	160	+0 -0.30	1.90 ±0.13	G150
G155	155		165			G155
G160	160		170			G160
G165	165		175			G165
G170	170		180			G170
G175	175		185			G175
G180	180		190			G180
G185	185		195			G185
G190	190		200			G190
G195	195		205			G195
G200	200		210			G200
G210	210		220			G210
G220	220		230			G220
G230	230		240			G230
G240	240		250			G240
G250	250		260			G250
G260	260		270			G260
G270	270		280			G270
G280	280	290	G280			
G290	290	300	G290			
G300	300	310	G300			



Tubes for Turning Seals

Rubber tubes



N921 NBR rubber has good oil resistance, excellent wear resistance and resilience.

N885 Low temperature NBR can adapt to lower temperature oil conditions.

H539 HNBR hydrogenated NBR better resistance to media and weather, better tear strength, wear resistance.

FKM85 conventional fluororubber has better high temperature resistance and medium resistance than NBR, the low temperature and pressure variation are inferior to NBR.

Modified PTFE tubes



COMPLETE FORMULA

COMPLETE SIZE

ADEQUATE STOCKS

Including Bronze, Carbon fiber, molybdenum disulfide glass fiber, graphite etc. Meet high temperature, low temperature strong corrosion, high frequency impact, high-speed transport dynamic and different working conditions use.

Independent research and development of automatic molding equipment production, good product consistency, accurate size, mold equipped with complete. Outer diameter <2000mm specification can be produced.

Urgent items according to the recommended size can be shipped on the same day, the bulk order delivery time is 15 days.

PEEK



POM PA + GF



PFA/FEP PVDF



PCTFE UPE



The product series is constantly updating

Connecting Sleeve Series / for Breaker



Sleeve Plug Series / for Breaker



OHY Series



IUS Series



D-Ring Series



VA / VS Series / Large size



Design & Manufacture Seals



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