



江苏泓相密封件科技有限公司

Jiangsu hongxiang Seals technology Co., LTD.

扬中市利达橡塑材料厂

Yangzhong Leader Rubber Material Factory

密封件目录



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扬中市利达橡塑材料厂
Yangzhong lida plastic rubber factory

BRIEF
INTRODUCTION
公司介绍

专业成就经典，
品质铸就非凡，
服务成就辉煌，
用心铸就密封件领先品牌！

江苏泓相密封件科技有限公司（扬中市利达橡塑材料厂）成立于1983年，位于长江三角洲，人杰地灵。专业从事橡胶、塑料密封件的开发、生产和销售。公司于2001年通过ISO2001:9001质量体系认证，于2002年全面采用用友软件ERP进行管理。目前公司建筑面积3.5万平方米，总资产1.5亿。

江苏泓相密封件科技有限公司有三十多年的密封件生产经验，技术力量雄厚，经验丰富，有先进的生产设备及工艺，精湛的质量保证，优质的服务，占据了国内的主要市场。并与知名科研院校长期保持着横向型联系，为技术的交流、员工的培训、人才的引进、密封件的动向、信息的传递等奠定了良好的基础。

江苏泓相密封件科技有限公司的产品（密封件）广泛适用于：工程机械（装载机、推土机、叉车、挖掘机等）、压力机械（注射机、成型机、锻压设备及各类泵、阀等）、人造板机械、建筑机械及电子、冶金、化工设备、矿山、水电站、船舶、石油机械等行业。在油缸及变速箱密封件方面更有研究，在国内同行业中占有领先地位，并且与山推股份、三一重工、中联重科、徐工集团、柳工集团、龙工集团、合力叉车、杭州齿轮箱厂、西安航天动力等厂家保持良好的合作关系，多年来一直被以上企业评为优秀供应商。

随着与国际的接轨，各行各业对密封件的要求也不断地提高，所以江苏泓相密封件科技有限公司在朝着生产更优质的密封件的方向努力着，力创国际品牌。希望带给用户的，始终是最优质的密封元件。



QUALIFICATIONS & HONORS

资质及荣誉



Established in 1983 and located in the wonderful yangtze River Delta, Jiangsu Hongxiang sealing Technology Co., Ltd. (yang-zhong Lida Rubber & plastic Materials Factory) is specializing in the development, production and sales of rubber and plastic seals. The company obtained ISO2001:9001 Quality system certification in 2001 and the company began to fully use the Youyou software ERp in management in 2002. The company, with total assets of 150 million, has a building area of 35,000 square meters.

with more than 30 years of production experience, strong technical force, rich experience, advanced production equipment and technology, super quality assurance and quality service, the products of Jiangsu Hongxiang sealing Technology co., Ltd. have occupied the main markets in our country. The company has established a long-term horizontal contact with well-known scientific research institutes and universities, which has laid a good foundation for the technical exchanges, staff training, talent introduction, seals information and so on.

The products (seals) of Jiangsu Hongxiang sealing Technology Co., Ltd. are widely used in such fields as engineering machines (loaders, bulldozers, forklifts, excavators, etc.), pressure machines (injection machine, forming machine, forging equipment and all kinds of pumps, valves, etc.), man-made board machines, construction machines and electronics, metallurgy, chemical equipment, mining, hydroelectric power stations, ships, petroleum machines and so on. The company, taking a leading position in the same industry at home, has made great research progress in the seals for oil cylinders and gearboxes, and has maintained good cooperation relations with such manufacturers as shantui construction Machinery, sany Heavy Industry, zoomlion Heavy Industry, XCMG, Liugong Machinery, Lonk-ing Holdings Limited, Heli Forklift, Hangzhou Gearbox plant, xi'an Aerospace power plant and etc, and has been rated as excellent supplier for many years.

with the integration with the world, Jiangsu Hongxiang sealing Technology co., Ltd. is working hard to produce more high-quality seals to create an international brand because the seal requirements are constantly improving. we hope to bring the users with the best quality sealing components.

SEALS AND SEALING SYSTEMS



一、Dustproof Series

1		FC	.....	1-3
2		FCY	.....	4-6
3		FCB	.....	7-8
4		FCI	.....	9-11
5		FCD	.....	12-13
6		FCZ	.....	14-17
7		FCX	.....	18-21
8		FCF	.....	22-23

二、Piston Rod Series

1		ZUB	.....	24-26
2		ZUI	.....	27-33
3		ZUA	.....	34-36
4		HCH	.....	37-38
5		ZJS		39-41
6		ZJSA		42-45
7		ZSTF		46-50
8		ZGLQ		51-55
9		ZCA		56-57
10		ZJA		58-59

11		ZCB		60-61
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三、Piston Series

1		KGL		62-64
2		KGLA		65-68
3		KGLR		69-71
4		KFWH		72-74
5		KUI		75-81
6		KOK		82-84
7		KSZH	.....	85-87
8		KGLQ	.....	88-90
9		KJS	.....	91-93

10		KJSA	.....	94-96
11		KGLU	.....	97-100
12		KJA	.....	100-101
13		KCA	.....	102-103
14		KJB		104-105
15		KDS		106-109

四、Universal Series of Piston Rod and Piston

1		KZU		110-121
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五、Variseal Series

1		KDU		122-123
2		KDV		124-125

3		ZXZM		126-129
4		KFSF		130-133
5		ZFSF		134-137

六、Hinge Bell Series

1		FCW	.....	138-140
2		FCV	.....	141-142

七、Rotating Series

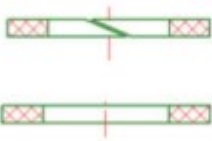
1		VA		143-145
2		VS		146-147
3		XZC		148-158
4		KXZ		159-162

5		ZXZ		163-165
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八、 Support Series

1		ZFA		166-168
2		KFA		169-171
3		ZFB		172-174
4		ZCH		175-179

九、 Retaining Ring Series

1		DQ		180-182
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十、 Basic series

1		Z0		183-188
2		K0		189-194

3



XX0

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195-198

FC

Standard materials:

Sealing ring: polyurethane

Application scope:

This dust ring is used on the axial movement rod, plunger and shaft sleeve of hydraulic cylinders and cylinders.

Features:

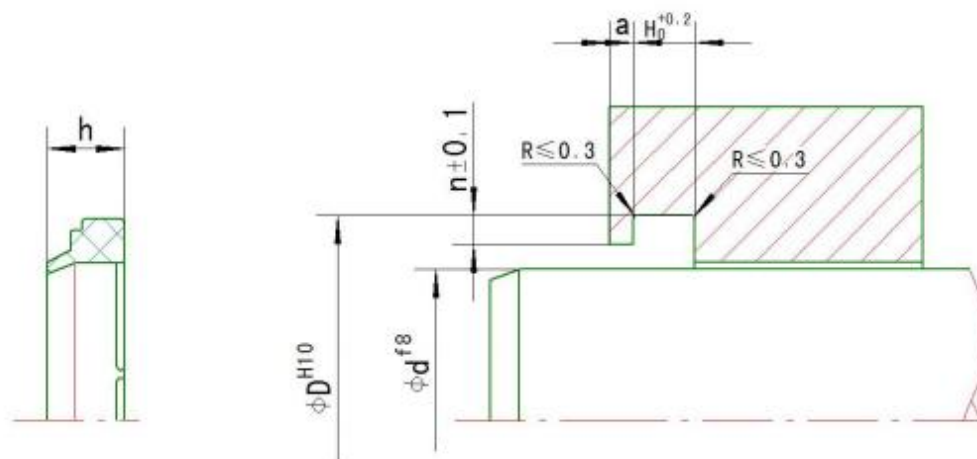
- Good dust scraping effect, even for firmly bonded dust
- Compact design
- Simple groove design
- Easy installation and disassembly
- Low friction
- Slight rotation and swinging do not affect working performance

Operating conditions:

Speed: $\leq 2\text{m/s}$

Temperature: -35°C $+110^{\circ}\text{C}$

Section view:



Groove Size:

Type FC Dustproof						
d	D	h	H	a	n	Art.No.
12	20	7	4	1	1	FS-FC 1220
14	22	7	4	1	1	FS-FC 1422
16	24	7	4	1	1	FS-FC 1624
18	26	7	4	1	1	FS-FC 1826
20	28	7	4	1	1	FS-FC 2028
22	30	7	4	1	1	FS-FC 2230
25	33	7	4	1	1	FS-FC 2533
28	36	7	4	1	1	FS-FC 2836
30	38	7	4	1	1	FS-FC 3038
32	40	7	4	1	1	FS-FC 3240
35	43	7	4	1	1	FS-FC 3543
36	44	7	4	1	1	FS-FC 3644
38	46	7	4	1	1	FS-FC 3846
40	48	7	4	1	1	FS-FC 4048
42	50	7	4	1	1	FS-FC 4250
45	53	7	4	1	1	FS-FC 4553
48	56	7	4	1	1	FS-FC 4856
50	58	7	4	1	1	FS-FC 5058
55	63	7	4	1	1	FS-FC 5563
56	64	7	4	1	1	FS-FC 5664
60	68	7	4	1	1	FS-FC 6068
62	70	7	4	1	1	FS-FC 6270
63	71	7	4	1	1	FS-FC 6371
65	73	7	4	1	1	FS-FC 6573

Type FC Dustproof						
d	D	h	H	a	n	Art.No.
70	78	7	4	1	1	FS-FC 7078
75	83	7	4	1	1	FS-FC 7583
78	86	7	4	1	1	FS-FC 7886
80	88	7	4	1	1	FS-FC 8088
85	93	7	4	1	1	FS-FC 8593
90	98	7	4	1	1	FS-FC 9098
95	103	7	4	1	1	FS-FC 95103
97	105	7	4	1	1	FS-FC 97105
100	108	7	4	1	1	FS-FC 100108
105	117	10	5.5	1.5	1.5	FS-FC 105117
110	122	10	5.5	1.5	1.5	FS-FC 110122
120	132	10	5.5	1.5	1.5	FS-FC 120132
125	137	10	5.5	1.5	1.5	FS-FC 125137
128	140	10	5.5	1.5	1.5	FS-FC 128140
130	142	10	5.5	1.5	1.5	FS-FC 130142
140	152	10	5.5	1.5	1.5	FS-FC 140152
145	157	10	5.5	1.5	1.5	FS-FC 145157
150	162	10	5.5	1.5	1.5	FS-FC 150162
160	172	10	5.5	1.5	1.5	FS-FC 160172
166	178	10	5.5	1.5	1.5	FS-FC 166178
170	182	10	5.5	1.5	1.5	FS-FC 170182
180	192	10	5.5	1.5	1.5	FS-FC 180192
190	202	10	5.5	1.5	1.5	FS-FC 190202
200	212	10	5.5	1.5	1.5	FS-FC 200212
220	235	13	6.5	2	2	FS-FC 220235
230	245	13	6.5	2	2	FS-FC 230245
240	255	13	6.5	2	2	FS-FC 240255
260	275	13	6.5	2	2	FS-FC 260275
275	290	13	6.5	2	2	FS-FC 275290
325	340	13	6.5	2	2	FS-FC 325340

FCY

Standard materials

Sealing ring: polyurethane

Application scope:

Suitable used for hydraulic and pneumatic reciprocating motion environments.

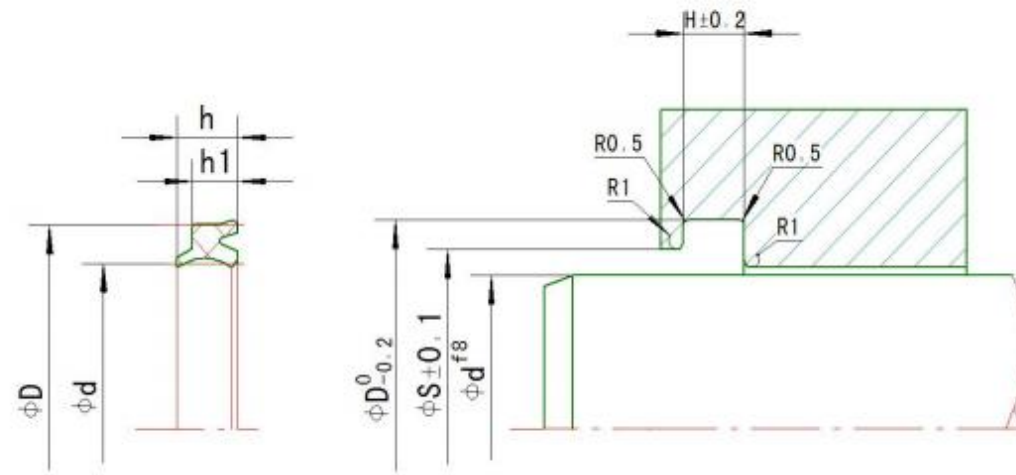
Features

- Even for dust with strong adsorption, it has good scraping effect
- Wear resistance and long service life
- Capable of storing and reverse transporting residual oil
- Using elastic materials can reduce friction

Operating conditions

Speed: $\leq 2\text{m/s}$

Temperature: -35°C $+110^{\circ}\text{C}$

Section view:**Groove Size:**

Type FCY Double Lips Dustproof						
d	D	h	h1	S	H	Art.No.
8	13	4.1	3.1	10.5	3.5	FS-FCY 0813
10	16	4.8	3.6	12.5	4	FS-FCY 1016
12	18	4.8	3.6	14.5	4	FS-FCY 1218
14	20	4.8	3.6	16.5	4	FS-FCY 1420
16	22	4.8	3.6	18.5	4	FS-FCY 1622
18	24	4.8	3.6	20.5	4	FS-FCY 1824
20	26	4.8	3.6	22.5	4	FS-FCY 2026
22	28	4.8	3.6	24.5	4	FS-FCY 2228
25	31	4.8	3.6	27.5	4	FS-FCY 2531
28	36	5.8	4.5	31	5	FS-FCY 2836
30	38	5.8	4.5	33	5	FS-FCY 3038
32	40	5.8	4.5	35	5	FS-FCY 3240
36	44	5.8	4.5	39	5	FS-FCY 3644
40	48	5.8	4.5	43	5	FS-FCY 4048
45	53	5.8	4.5	48	5	FS-FCY 4553
46	54	5.8	4.5	49	5	FS-FCY 4654
50	58	5.8	4.5	53	5	FS-FCY 5058
55	65	6.8	5.3	58	6	FS-FCY 5565
56	66	6.8	5.3	59	6	FS-FCY 5666
60	70	6.8	5.3	63	6	FS-FCY 6070
63	73	6.8	5.3	66	6	FS-FCY 6373
65	75	6.8	5.3	68	6	FS-FCY 6575
70	80	6.8	5.3	73	6	FS-FCY 7080
75	85	6.8	5.3	78	6	FS-FCY 7585

Type FCY Double Lips Dustproof						
d	D	h	h1	S	H	Art.No.
80	90	6.8	5.3	83	6	FS-FCY 8090
85	95	6.8	5.3	88	6	FS-FCY 8595
90	100	6.8	5.3	93	6	FS-FCY 90100
100	110	6.8	5.3	103	6	FS-FCY 100110
110	125	9.5	7.5	114	8.5	FS-FCY 110120
125	140	9.5	7.5	129	8.5	FS-FCY 125140
140	155	9.5	7.5	144	8.5	FS-FCY 140155

FCB

Standard materials

Sealing ring: polyurethane or polyurethane

Skeleton: 08F

Application scope

Suitable used for hydraulic and valve reciprocating environments

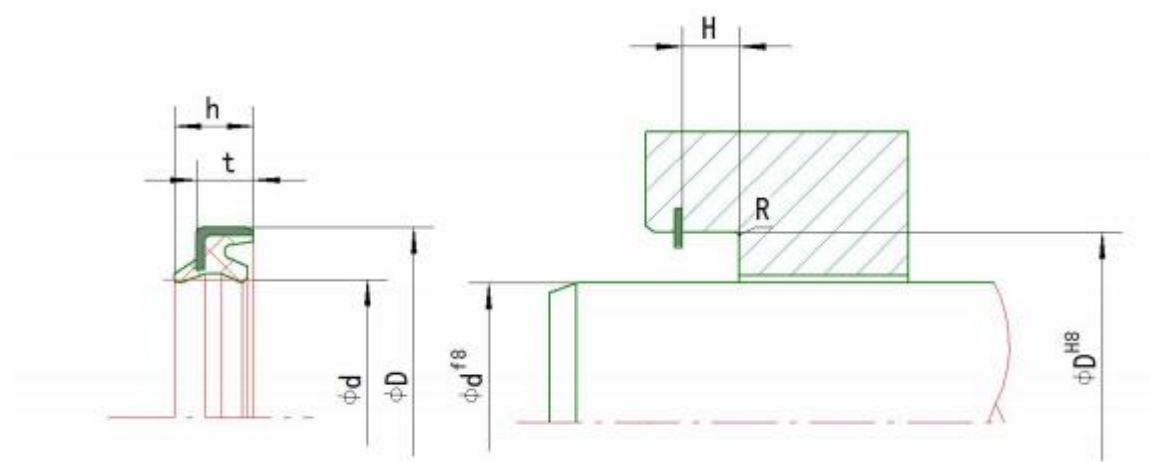
Features

- Prevent dust entering, protect equipment and maintain sealing performance
- Able to work under harsh dust conditions
- Prevent scratches
- Easy to install

Operating conditions

- Speed: $\leq 2\text{m/S}$
- Temperature: $-35^{\circ}\text{C} +110^{\circ}\text{C}$

Section view



Groove Size

Type FCB					
ϕd	ϕD	t	h	H	Art.No.
20	32	6	9	6 ^{+0. 5 + 0 .3}	FS-FCB 2032
25	37				FS-FCB 2537
30	42				FS-FCB 3042
32	44	7	10	7 ^{+0. 5 + 0 .3}	FS-FCB 3244
34	46				FS-FCB 3446
35	47				FS-FCB 3547
38	50				FS-FCB 3850
40	52				FS-FCB 4052
45	57				FS-FCB 4557
50	62				FS-FCB 5062
55	69	8	11	8 ^{+0. 5 + 0 .3}	FS-FCB 5569
60	74				FS-FCB 6074
65	79				FS-FCB 6579
70	84				FS-FCB 7084
75	89				FS-FCB 7589
80	94				FS-FCB 8094
85	99				FS-FCB 8599
90	104				FS-FCB 90104
95	109				FS-FCB 95109
100	114				FS-FCB 100114
105	121	9	12	9 ^{+0. 5 + 0 .3}	FS-FCB 105121
110	126				FS-FCB 110126
115	131				FS-FCB 115131
120	136				FS-FCB 120136
130	146				FS-FCB 130146
140	160	10	14	10 ^{+0. 5 + 0 .3}	FS-FCB 140160

FCI

Standard materials

Sealing ring: polyurethane

Application scope

Suitable used for hydraulic and and pneumatic reciprocating motion environments

Features

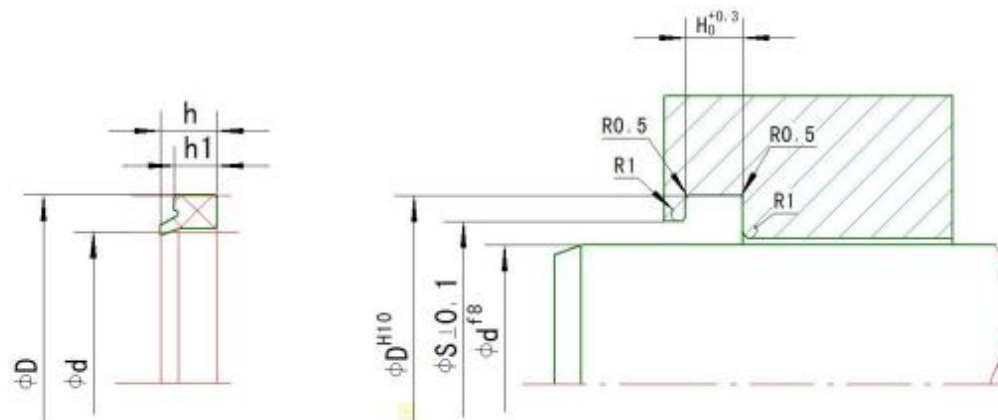
- Prevent dust entering, dirt, sand particles and metal shavings
- Prevent scratches
- Protect guide components and extend the service life of seals
- Easy to install

Operating conditions

Speed: $\leq 2\text{m/s}$

Temperature: -35°C $+100^{\circ}\text{C}$

Section view



Groove Size

Type FCI						
Nominal Size of Dustproof seals		Cavity Size				Art.No.
h1	h	φd	φD	φS	H	
4.5	6	6.3	14.3	10.3	5	FS-FCI 6.3-1
		8	16	12		FS-FCI 0816
		9	17	3		FS-FCI 0917
		10	18	14		FS-FCI 1018
		11.2	19.2	15.2		FS-FCI 11.2-1
		12.5	20.5	16.5		FS-FCI 12.5-1
		14	22	18		FS-FCI 1422
		15	23	19		FS-FCI 1523
		16	24	20.3		FS-FCI 1624
		18	26	22.3		FS-FCI 1826
		20	28	24		FS-FCI 2028
		22.4	30.4	26.4		FS-FCI 22.4-1
		23.5	31.5	27.5		FS-FCI 23.5-1
		25	33	29		FS-FCI 2533
		28	36	32		FS-FCI 2836
5	6.5	30	38	34	6	FS-FCI 3038
		31.5	39.5	35.5		FS-FCI 31.5-1
		35	43	39		FS-FCI 3543
		35.5	43.5	39.5		FS-FCI 35.5-1
		40	48	44		FS-FCI 4048
		45	53	49		FS-FCI 4553
		45.5	53.5	49.5		FS-FCI 45.5-1
		50	58	54		FS-FCI 5058
		53	61	57		FS-FCI 5361
		54.5	62.5	58.5		FS-FCI 54.5-1
		55	63	59		FS-FCI 5563
		56	64	60		FS-FCI 5664
		60	68	64		FS-FCI 6068
		62	70	66		FS-FCI 6270
		63	71	67		FS-FCI 6371
		65	73	69		FS-FCI 6573
6	8	67	75	71	7	FS-FCI 6775
		70	80	75		FS-FCI 7080
		71	81	76		FS-FCI 7181
		75	85	80		FS-FCI 7585
		76	86	81		FS-FCI 7686
		80	90	85		FS-FCI 8090
		85	95	90		FS-FCI 8595
		90	100	95		FS-FCI 90100

		95	105	100		FS-FCI 95105
		97	107	102		FS-FCI 97107
		100	110	105		FS-FCI 100110
		105	115	110		FS-FCI 105115
		106	116	111		FS-FCI 106116
		110	120	115		FS-FCI 110120
		112	122	117		FS-FCI 112122
		118	128	123		FS-FCI 118128
		120	130	125		FS-FCI 120130
7	9.5	125	138	132	8	FS-FCI 125138
		130	143	137		FS-FCI 130143
		132	145	139		FS-FCI 132145
		140	153	147		FS-FCI 140153
		145	158	152		FS-FCI 145158
		150	163	157		FS-FCI 150163
		155	168	162		FS-FCI 155168
		160	173	167		FS-FCI 160173
		170	183	177		FS-FCI 170183
		175	188	182		FS-FCI 175188
		180	193	187		FS-FCI 180193
		185	198	192		FS-FCI 185198
		190	203	197		FS-FCI 190203
		199	212	206		FS-FCI 199212
		200	213	207		FS-FCI 200213
		204	217	211		FS-FCI 204217
		210	223	217		FS-FCI 210223
		215	228	222		FS-FCI 215228
		220	233	227		FS-FCI 220233
		224	237	231		FS-FCI 224238
		225	238	232		FS-FCI 225238
		230	243	237		FS-FCI 230243
		240	253	247		FS-FCI 240253
		250	263	257		FS-FCI 250263
7	12	260	275	268	10	FS-FCI 260275
		270	285	278		FS-FCI 270285
		280	295	288		FS-FCI 280295
		290	305	298		FS-FCI 290305
		300	315	308		FS-FCI 300315

FCD

Standard materials

Sealing ring: polyurethane

Skeleton: 08F

Application scope

Suitable used for hydraulic and valve reciprocating environments.

Features

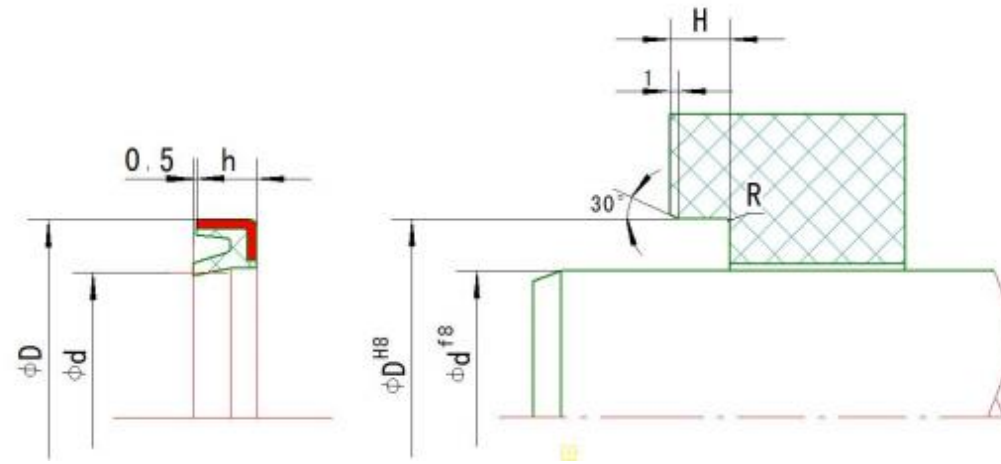
- Prevent dust entering, protect equipment and maintain sealing performance
- Able to work under harsh dust conditions
- Prevent scratches
- Easy to install

Operating conditions

Speed: $\leq 2\text{m/s}$

Temperature: -35°C $+110^{\circ}\text{C}$

Section view



Groove Size

Type FCD				
ϕd	ϕD	h	H	Art.No.
40	52	7	7 ^{+0. 5 + 0 .3}	FS-FCD 4052
45	57			FS-FCD 4557
50	62			FS-FCD 5062
55	69	8	8 ^{+0. 5 + 0 .3}	FS-FCD 5569
60	74			FS-FCD 6074
61	74			FS-FCD 6174
63	77			FS-FCD 6377
65	79			FS-FCD 6579
70	84			FS-FCD 7084
75	89			FS-FCD 7589
80	94			FS-FCD 8094
85	99			FS-FCD 8599
90	104			FS-FCD 90104
95	109			FS-FCD 95109
100	114			FS-FCD 100114
110	126	9	9 ^{+0. 5 + 0 .3}	FS-FCD 110126
120	136			FS-FCD 120136
130	146			FS-FCD 130146
140	160	10	10 ^{+0. 5 + 0 .3}	FS-FCD 140160

FCZ

Standard materials

Sealing ring: filling PTFE

O-ring: nitrile rubber or fluorine rubber

Application scope:

Suitable used for environments with severe dust or severe cold, high-frequency reciprocating motion. Mainly used in hydraulic and pneumatic devices, servo systems, chemical and food equipment.

Features

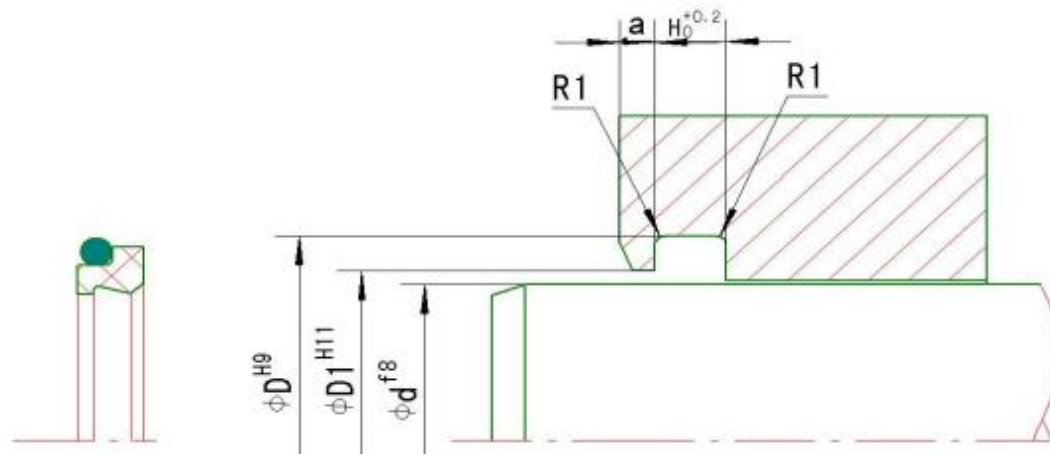
- Excellent sliding performance
- No crawling, no adhesive tape
- Sturdy dust ring for heavy-duty use
- Deformation compensable for piston rod or plunger
- Compact structure, saving installation space
- The effect of scraping off pollutants is perfect, even on firmly bonded soil
- The effect of scraping off residual oil film attached to the inside surface of the piston rod is very nice
- Excellent compatibility with hydraulic media

Operating conditions

Speed: $\leq 15\text{m/s}$

Temperature: -45°C $+200^{\circ}\text{C}$

Section view



Groove Size

Diameter of Piston rod		Diameter of Groove	Width of Groove	Diameter	width of Stop
Suggested range	Extended range	DH9	D1H11	df8	a min
4.0-11.9	4.0-130	dN+4.8	3.7	d+1.5	2
12.0-64.9	10.0-245	dN+6.8	5	d+1.5	2
65.0-250.9	25.0-400	dN+8.8	6	d+1.5	3
251-420.9	40.0-655	dN+12.2	8.4	d+2	4
421-650.9	110.0-655	dN+16	11	d+2	4
651-999.9	140.0-999.9	dN+20	14	d+2.5	5
>1000	>1000	dN+20	14	d+2.5	5

Diameter of Piston rod	Diameter of Groove	Diameter of Groove	Diameter	Radius	width of Stop	O-ring size	Art.No.
d	D	H	D1	r1 max	a min		
4	8.8	3.7	5.5	0.4	2	5.60*1.8	FS-FCZ 04
5	9.8	3.7	6.5	0.4	2	6.70*1.8	FS-FCZ 05
6	10.8	3.7	7.5	0.4	2	7.65*1.78	FS-FCZ 06
8	12.8	3.7	9.5	0.4	2	9.50*1.8	FS-FCZ 08
10	14.8	3.7	11.5	0.4	2	11.80*1.8	FS-FCZ 10
12	18.8	5	13.5	0.8	2	13.94*2.62	FS-FCZ 12
14	20.8	5	15.5	0.8	2	15.54*2.62	FS-FCZ 14
15	21.8	5	16.5	0.8	2	17.12*2.62	FS-FCZ 15
16	20.8	3.7	17.5	0.4	2	17.17*1.78	FS-FCZ 16
16	22.8	5	17.5	0.8	2	18.00*2.65	FS-FCZ 16-1
18	22.8	3.7	19.5	0.4	2	19.00*1.80	FS-FCZ 18
18	24.8	5	19.5	0.8	2	20.29*2.62	FS-FCZ 18-1

Diameter of Piston rod	Diameter of Groove	Diameter of Groove	Diameter	Radius	width of Stop	O-ring size	Art.No.
d	D	H	D1	r1 max	a min		
20	26.8	5	21.5	0.8	2	21.89*2.62	FS-FCZ 20
22	28.8	5	23.5	0.8	2	23.47*2.62	FS-FCZ 22
25	31.8	5	26.5	0.8	2	26.64*2.62	FS-FCZ 25
28	34.8	5	29.5	0.8	2	29.82*2.62	FS-FCZ 28
30	34.8	3.7	31.5	0.4	2	31.47*1.78	FS-FCZ 30
30	36.8	5	31.5	0.8	2	31.42*2.62	FS-FCZ 30-1
32	38.8	5	33.5	0.8	2	34.59*2.62	FS-FCZ 32
35	41.8	5	36.5	0.8	2	36.17*2.62	FS-FCZ 35
36	42.8	5	37.5	0.8	2	37.77*2.62	FS-FCZ 36
37	43.8	5	38.5	0.8	2	39.34*2.62	FS-FCZ 37
40	46.8	5	41.5	0.8	2	42.52*2.62	FS-FCZ 40
42	48.8	5	43.5	0.8	2	44.12*2.62	FS-FCZ 42
45	51.8	5	46.5	0.8	2	47.29*2.62	FS-FCZ 45
49	55.8	5	50.5	0.8	2	50.47*2.62	FS-FCZ 49
50	56.8	5	51.5	0.8	2	52.07*2.62	FS-FCZ 50
54	60.8	5	55.5	0.8	2	55.25*2.62	FS-FCZ 54
55	61.8	5	56.5	0.8	2	56.82*2.62	FS-FCZ 55
56	62.8	5	57.5	0.8	2	58.42*2.62	FS-FCZ 56
60	66.8	5	61.5	0.8	2	61.60*2.62	FS-FCZ 60
63	69.8	5	64.5	0.8	2	64.77*2.62	FS-FCZ 63
65	73.8	6	66.5	1	3	66.27*3.53	FS-FCZ 65
70	78.8	6	71.5	1	3	72.62*3.53	FS-FCZ 70
75	83.8	6	76.5	1	3	75.79*3.53	FS-FCZ 75
80	88.8	6	81.5	1	3	82.14*3.53	FS-FCZ 80
85	93.8	6	86.5	1	3	83.52*3.53	FS-FCZ 85
90	98.8	6	91.5	1	3	91.67*3.53	FS-FCZ 90
95	103.8	6	96.5	1	3	98.02*3.53	FS-FCZ 95
100	108.8	6	101.5	1	3	101.19*3.53	FS-FCZ 100
105	113.8	6	106.5	1	3	107.54*3.53	FS-FCZ 105
110	118.8	6	111.5	1	3	110.72*3.53	FS-FCZ 110
115	123.8	6	116.5	1	3	117.07*3.53	FS-FCZ 115
120	128.8	6	121.5	1	3	120.24*3.53	FS-FCZ 120
125	133.8	6	126.5	1	3	126.59*3.53	FS-FCZ 125
130	138.8	6	131.5	1	3	132.94*3.53	FS-FCZ 130
135	143.8	6	136.5	1	3	136.12*3.53	FS-FCZ 135
137	145.8	6	138.5	1	3	139.29*3.53	FS-FCZ 137
140	148.8	6	141.5	1	3	142.47*3.53	FS-FCZ 140
145	153.8	6	146.5	1	3	145.64*3.53	FS-FCZ 145
150	158.8	6	151.5	1	3	151.99*3.53	FS-FCZ 150
160	168.8	6	161.5	1	3	158.34*3.53	FS-FCZ 160

Diameter of Piston rod	Diameter of Groove	Diameter of Groove	Diameter	Radius	width of Stop	O-ring size	Art.No.
d	D	H	D1	r1 max	a min		
170	178.8	6	171.5	1	3	171.04*3.53	FS-FCZ 170
180	188.8	6	181.5	1	3	177.39*3.53	FS-FCZ 180
190	198.8	6	191.5	1	3	190.09*3.53	FS-FCZ 190
200	208.8	6	201.5	1	3	202.79*3.53	FS-FCZ 200
210	218.8	6	211.5	1	3	209.14*3.53	FS-FCZ 210
220	228.8	6	221.5	1	3	221.84*3.53	FS-FCZ 220
230	238.8	6	231.5	1	3	228.19*3.53	FS-FCZ 230
240	248.8	6	241.5	1	3	240.89*3.53	FS-FCZ 240
250	258.8	6	251.5	1	3	253.59*3.53	FS-FCZ 250
260	272.2	8.4	262	1.5	4	253.59*5.33	FS-FCZ 260
280	292.2	8.4	282	1.5	4	278.77*5.33	FS-FCZ 280
300	312.2	8.4	302	1.5	4	304.17*5.33	FS-FCZ 300
320	332.2	8.4	322	1.5	4	329.57*5.33	FS-FCZ 320
350	362.2	8.4	352	1.5	4	354.97*5.33	FS-FCZ 350
360	372.2	8.4	362	1.5	4	354.97*5.33	FS-FCZ 360
370	382.2	8.4	372	1.5	4	365*5.3	FS-FCZ 370
400	412.2	8.4	402	1.5	4	405.26*5.33	FS-FCZ 400
440	456	11	442	1.5	4	443.36*7	FS-FCZ 440
480	496	11	482	1.5	4	481.46*7	FS-FCZ 480
600	616	11	602	1.5	4	608.08*7	FS-FCZ 600
630	646	11	632	1.5	4	633.48*7	FS-FCZ 630
680	700	14	682.5	2	5	680*8.4	FS-FCZ 680
700	720	14	702.5	2	5	705*8.4	FS-FCZ 700
770	790	14	772.5	2	5	774.1*8.4	FS-FCZ 770
828	848	14	830.5	2	5	830*8.4	FS-FCZ 828
880	900	14	882.5	2	5	888*8.4	FS-FCZ 880
900	920	14	902.5	2	5	904*8.4	FS-FCZ 900
1030	1050	14	1032.5	2	5	1035*8.4	FS-FCZ 1030
1180	1200	14	1182.5	2	5	1185*8.4	FS-FCZ 1180

FCX

Standard materials

Sealing ring: filling PTFE

O-ring: nitrile rubber or fluorine rubber

Application scope:

Suitable used for environments with severe dust or severe cold, high-frequency reciprocating motion. Mainly used in hydraulic and pneumatic devices, servo systems, chemical and food equipment.

Features

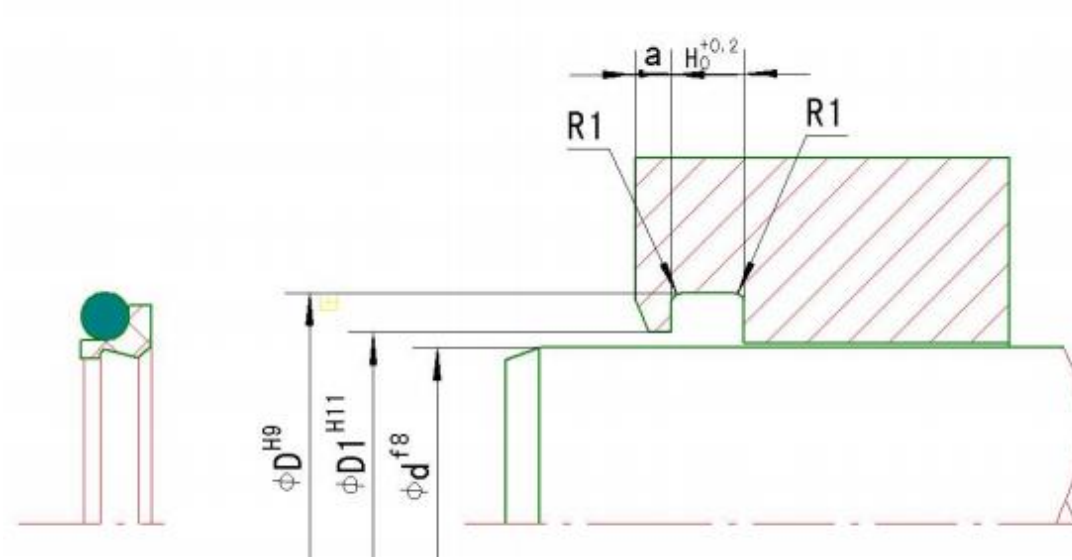
- Excellent sliding performance
- No crawling, no adhesive tape
- Sturdy dust ring for heavy-duty use
- Deformation compensable for piston rod or plunger
- Compact structure, saving installation space
- The effect of scraping off pollutants is perfect, even on firmly bonded soil
- The effect of scraping off residual oil film attached to the inside surface of the piston rod is very nice
- Excellent compatibility with hydraulic media

Operating conditions

Speed: $\leq 15\text{m/s}$

Temperature: -45°C $+200^{\circ}\text{C}$

Section view



Groove Size

Diameter of Piston rod		Diameter of Groove	Width of Groove	Diameter	width of Stop	O-ring section
Suggested range	Extended range	DH9	D1H11	df8	a min	
19.0-39.9	19.0-100.0	d+7.6	4.2	d+1.5	3	2. 62
40.0-69.9	30.0-200.0	d+8.8	6.3	d+1.5	3	2. 62
70.0-139.9	70.0-360.0	d+12.2	8.1	d+2.0	4	3. 53
140.0-399.9	100.0-650.0	d+16	9.5	d+2.5	5	5. 33
400.0-649.9	200.0-650.0	d+24	14	d+2.5	8	7
650.0-999.9	400.0-999.9	d+27.3	16	d+2.5	10	8. 4
>1000	>1000	d+27.3	16	d+2.5	10	8. 4

Dia. of Piston rod	Dia. of Groove	Dia. of Groove	Diameter	Radius	width of Stop	O-ring size	Art.No.
d	D	H	D1	r1 max	amin		
20	27.6	4.2	21.5	0.8	3	21.89*2.62	FS-FCX 20
25	32.6	4.2	26.5	0.8	3	28.24*2.62	FS-FCX 25
28	35.6	4.2	29.5	0.8	3	29.82*2.62	FS-FCX 28
30	37.6	4.2	31.5	0.8	3	32.99*2.62	FS-FCX 30
32	39.6	4.2	33.5	0.8	3	34.59*2.62	FS-FCX 32
36	43.6	4.2	37.5	0.8	3	37.77*2.62	FS-FCX 36
40	48.8	6.3	41.5	0.8	3	44.12*2.62	FS-FCX 40
42	50.8	6.3	43.5	0.8	3	45.69*2.62	FS-FCX 42
45	53.8	6.3	46.5	0.8	3	48.9*2.62	FS-FCX 45
50	58.8	6.3	51.5	0.8	3	53.64*2.62	FS-FCX 50
55	63.8	6.3	56.5	0.8	3	58.42*2.62	FS-FCX 55

Dia.of Piston rod	Dia. of Groove	Dia. of Groove	Diameter	Radius	width of Stop	O-ring size	Art.No.
d	D	H	D1	r1 max	amin		
56	64.8	6.3	57.5	0.8	3	59.99*2.62	FS-FCX 56
60	68.8	6.3	61.5	0.8	3	63.17*2.62	FS-FCX 60
63	71.8	6.3	64.5	0.8	3	66.34*2.62	FS-FCX 63
65	73.8	6.3	66.5	0.8	3	67.95*2.62	FS-FCX 65
70	78.8	6.3	71.5	0.8	3	72.69*2.62	FS-FCX 70
70	82.2	8.1	72	1	4	75.79*3.53	FS-FCX 70-1
75	87.2	8.1	77	1	4	78.97*3.53	FS-FCX 75
80	88.8	6.3	81.5	1	3	82.22*2.62	FS-FCX 80
80	92.2	8.1	82	1	4	85.32*3.53	FS-FCX 80-1
85	97.2	8.1	87	1	4	88.49*3.53	FS-FCX 85
90	98.8	6.3	91.5	1	3	94.92*2.62	FS-FCX 90
90	102.2	8.1	92	1	4	94.84*3.53	FS-FCX 90-1
97	109.2	8.1	99	1	4	101.19*3.53	FS-FCX 97
99	111.2	8.1	101	1	4	104.37*3.53	FS-FCX 99
100	108.8	6.3	101.5	1	3	101.27*2.62	FS-FCX 100
100	112.2	8.1	102	1	4	104.37*3.53	FS-FCX 100-1
105	117.2	8.1	107	1	4	110.72*3.53	FS-FCX 105
110	118.8	6.3	111.5	1	3	113.97*2.62	FS-FCX 110
110	122.2	8.1	112	1	4	113.89*3.53	FS-FCX 110-1
115	127.2	8.1	117	1	4	120.24*3.53	FS-FCX 115
120	132.2	8.1	122	1	4	123.42*3.53	FS-FCX 120
125	133.8	6.3	126.5	1	3	126.67*2.62	FS-FCX 125
125	137.2	8.1	127	1	4	129.77*3.53	FS-FCX 125-1
130	142.2	8.1	132	1	4	136.12*3.53	FS-FCX 130
135	147.2	8.1	137	1	4	139.29*3.53	FS-FCX 135
140	152.2	8.1	142	1	4	145.64*3.53	FS-FCX 140
140	156	9.5	142.5	1.5	5	145.42*5.33	FS-FCX 140-1
150	166	9.5	152.5	1.5	5	151.77*5.33	FS-FCX 150
153	169	9.5	155.5	1.5	5	158.12*5.33	FS-FCX 153
155	171	9.5	157.5	1.5	5	158.12*5.33	FS-FCX 155
160	172.2	8.1	162	1	4	164.69*3.53	FS-FCX 160
160	176	9.5	162.5	1.5	5	164.47*5.33	FS-FCX 160-1
165	181	9.5	167.5	1.5	5	170.82*5.33	FS-FCX 165
170	186	9.5	172.5	1.5	5	177.17*5.33	FS-FCX 170
175	191	9.5	177.5	1.5	5	177.17*5.33	FS-FCX 175
180	192.2	8.1	182	1	4	183.74*3.53	FS-FCX 180
180	196	9.5	182.5	1.5	5	183.52*5.33	FS-FCX 180-1
190	206	9.5	192.5	1.5	5	196.22*5.33	FS-FCX 190
192	208	9.5	194.5	1.5	5	196.22*5.33	FS-FCX 192
200	212.2	8.1	202	1	4	202.79*3.53	FS-FCX 200

Diameter of Piston rod	Diameter of Groove	Diameter of Groove	Diameter	Radius	width of Stop	O-ring Size	Art.No.
d	D	H	D1	r1 max	amin		
200	216	9.5	202.5	1.5	5	202.57*5.33	FS-FCX 200-1
211	227	9.5	213.5	1.5	5	215.27*5.33	FS-FCX 211
220	232.2	8.1	222	1	4	221.84*3.53	FS-FCX 220
220	236	9.5	222.5	1.5	5	221.62*5.33	FS-FCX 220-1
240	256	9.5	242.5	1.5	5	247.02*5.33	FS-FCX 240
250	262.2	8.1	252	1	4	253.59*3.53	FS-FCX 250
250	266	9.5	252.5	1.5	5	253.37*5.33	FS-FCX 250-1
260	276	9.5	262.5	1.5	5	266.07*5.33	FS-FCX 260
270	286	9.5	272.5	1.5	5	278.77*5.33	FS-FCX 270
280	292.2	8.1	282	1.5	4	278.99*3.53	FS-FCX 280
280	296	9.5	282.5	1.5	5	278.77*5.33	FS-FCX 280-1
300	316	9.5	302.5	1.5	5	304.17*5.33	FS-FCX 300
320	332.2	8.1	322	1.5	4	329.79*3.53	FS-FCX 320
320	336	9.5	322.5	1.5	5	329.57*5.33	FS-FCX 320-1
330	346	9.5	332.5	1.5	5	329.57*5.33	FS-FCX 330
350	366	9.5	352.5	1.5	5	354.97*5.33	FS-FCX 350
360	372.2	8.1	362	1.5	4	355.19*3.53	FS-FCX 360
360	376	9.5	362.5	1.5	5	365.00*5.30	FS-FCX 360-1
380	396	9.5	382.5	1.5	5	380.37*5.33	FS-FCX 380
400	424	14	402.5	1.5	8	405.26*7.00	FS-FCX 400
440	464	14	442.5	1.5	8	443.36*7.00	FS-FCX 440
450	474	14	452.5	1.5	8	456.06*7.00	FS-FCX 450
480	504	14	482.5	1.5	8	481.46*7.00	FS-FCX 480
500	524	14	502.5	1.5	8	506.86*7.00	FS-FCX 500
560	584	14	562.5	1.5	8	557.66*7.00	FS-FCX 560
600	624	14	602.5	1.5	8	608.08*7.00	FS-FCX 600
650	677.3	16	652.5	2	10	649.00*8.40	FS-FCX 650
680	707.3	16	682.5	2	10	680.00*8.40	FS-FCX 680
700	727.3	16	702.5	2	10	715.00*8.40	FS-FCX 700
770	797.3	16	772.5	2	10	774.10*8.40	FS-FCX 770
785	812.3	16	787.5	2	10	810.00*8.40	FS-FCX 785
800	827.3	16	802.5	2	10	810.00*8.40	FS-FCX 800
810	837.3	16	812.5	2	10	810.00*8.40	FS-FCX 810
900	927.3	16	902.5	2	10	910.00*8.40	FS-FCX 900
950	977.3	16	952.5	2	10	959.10*8.40	FS-FCX 950
1000	1027.3	16	1003	2	10	1010.0*8.40	FS-FCX 1000
1040	1067.3	16	1043	2	10	1050.0*8.40	FS-FCX 1040
1130	1157.3	16	1133	2	10	1140.0*8.40	FS-FCX 1130
1200	1227.3	16	1203	2	10	1210.0*8.40	FS-FCX 1200
2600	2627.3	16	2603	2	10	2610.0*8.40	FS-FCX 2600

FCF

Standard materials

Sealing ring: polyurethane

Skeleton: 08F

Application scope

Suitable used for hydraulic and valve reciprocating environments.

Features

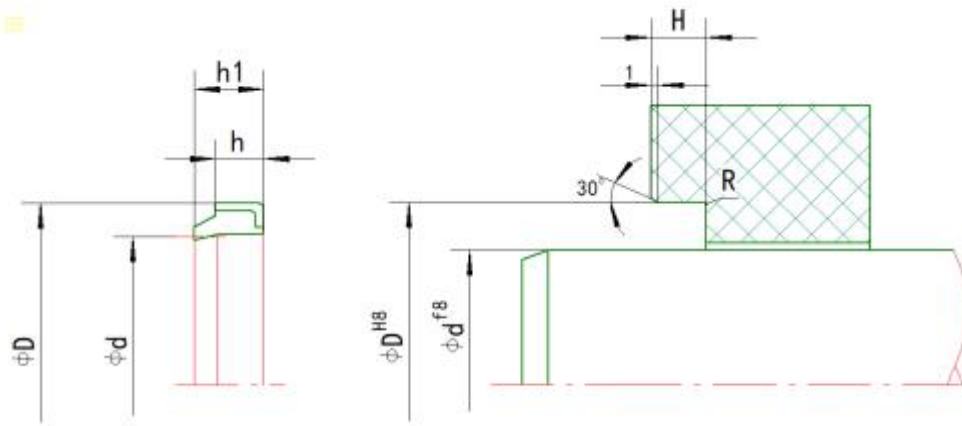
- Prevent dust entering, protect equipment and maintain sealing performance
- Able to work under harsh dust conditions
- Prevent scratches
- Easy to install

Operating conditions

Speed: $\leq 2\text{m/s}$

Temperature: -35°C $+110^{\circ}\text{C}$

Section view



Groove Size

Type FCF					
φd	φD	h1	h	H ^{+0.5}	Art.No.
15	25	7	5	5	FS-FCF 1525
18	28				FS-FCF 1828
20	30	8			FS-FCF 2030
25	35				FS-FCF 2535
28	38				FS-FCF 2838
30	40				FS-FCF 3040
32	42				FS-FCF 3242
35	45	10	7	7	FS-FCF 3545
38	48				FS-FCF 3848
40	50				FS-FCF 4050
45	55				FS-FCF 4555
50	60				FS-FCF 5060
55	65				FS-FCF 5565
60	70				FS-FCF 6070
65	75				FS-FCF 6575
70	80				FS-FCF 7080
75	85				FS-FCF 7585
80	90				FS-FCF 8090
85	95				FS-FCF 8595
90	100				FS-FCF 90100
100	110				FS-FCF 100110
110	126	12	9	9	FS-FCF 110126

ZUB

Standard materials

Seals material: polyurethane

Application scope

Mainly used for plunger or piston rod sealing in heavy-duty walking machinery or industrial hydraulic systems.

Features

- Excellent wear resistance
- Impact resistance
- Anti extrusion
- Small compression deformation
- Suitable for harsh working conditions
- Adequate lubrication due to the pressure medium between the sealing lips
- Improved sealing performance under zero pressure
- Prevent outside air entering excellently
- Easy to install

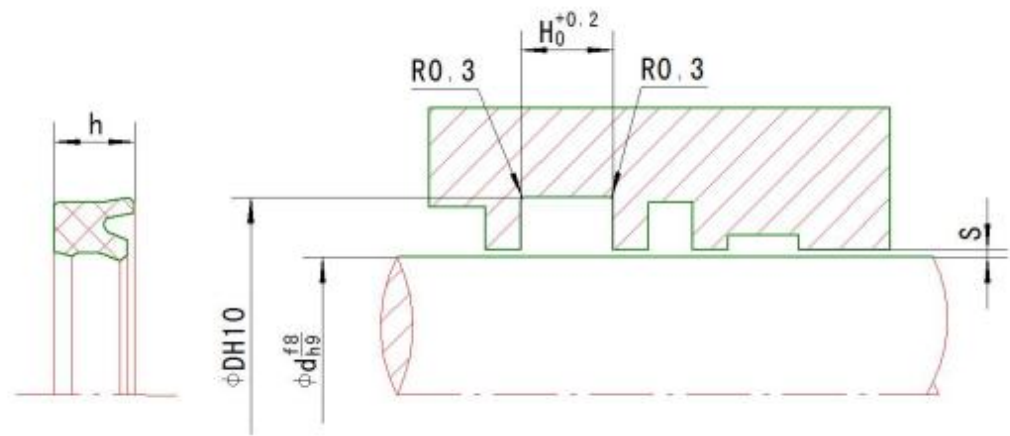
Operating conditions

Speed: $\leq 0.5\text{m/s}$

Pressure range: 0-40Mpa

Temperature: -35°C $+110^{\circ}\text{C}$

Section view:



Groove Size:

d	D	h	H	Art.No.	d	D	h	H	Art. No.
8	16	5.7	6.3	ZUB 0816	37	47	10	11	ZUB 3747
9	16	5.7	6.3	ZUB 0916	40	49.52	9.6	10.5	ZUB 40-1
10	16	4.5	5.3	ZUB 1016	40	50	10	11	ZUB 4050
10	17	5.7	6.3	ZUB 1017	40	52	8	9	ZUB 4052
10	18	5.7	6.3	ZUB 1018	40	55	11.4	12.5	ZUB 4055
12.7	19.05	4.5	5.3	ZUB 12.7-1	43	53	7.3	8	ZUB 4353
14	20	5.7	6.3	ZUB 1420	45	53	5.6	6.3	ZUB 4553
14	22	5.7	6.3	ZUB 1422	45	55	7.3	8	ZUB 4555
14	24	7.3	8	ZUB 1424	45	55	10	11	ZUB 45-1
16	24	5.8	6.3	ZUB 1624	45	60	11.4	12.5	ZUB 4560
16	26	7.3	8	ZUB 1626	46	56	10	11	ZUB 4656
20	30	7.3	8	ZUB 2030	48	56	11.5	12.5	ZUB 4856
22	32	7.3	8	ZUB 2232	50	60	7.3	8	ZUB 5060
25	33	6.5	7.3	ZUB 2533	50	60	10	11	ZUB 50-1
25	35	7.3	8	ZUB 2535	50	65	11.4	12.5	ZUB 5065
26	36	10	11	ZUB 2636	50.8	63.5	9.5	10.3	ZUB 50.8-1
28	36	7	7.5	ZUB 2836	52	62	10	11	ZUB 5262
28	38	7.3	8	ZUB 2838	55	65	10	11	ZUB 5565
30	40	10	11	ZUB 3040	55	67	10	11	ZUB 5567
30	45	10	11	ZUB 3045	56	71	11.4	12.5	ZUB 5671
32	42	7.3	8	ZUB 3242	60	68	13	14	ZUB 6068
32	42	10	11	ZUB 3242-1	60	70	7.5	8.5	ZUB 6070
32	45	10	11	ZUB 3245	60	70	10	11	ZUB 60-1
35	45	10	11	ZUB 3545	60	75	10	11	ZUB 6075
35	47	16.5	17.5	ZUB 3547	63	71	8	9	ZUB 6371
36	46	7.3	8	ZUB 3646	63	78	11.4	12.5	ZUB 6378
36	51	10	11	ZUB 3651	63	73	11.4	12.5	ZUB 6373

d	D	h	H	Art. No.
63.5	76.2	9.53	10.3	ZUB 63.5-1
64	72	9.1	10	ZUB 6472
65	73	11.5	12.5	ZUB 6573
65	75	12	13	ZUB 6575
65	85	11.4	12.5	ZUB 6585
68	78	12	13	ZUB 6878
70	80	12	13	ZUB 7080
70	85	11.4	12.5	ZUB 7085
75	88	10	11	ZUB 7588
75	90	10	11	ZUB 7590
78	86	11.5	12.5	ZUB 7886
80	90	12	13	ZUB 8090
80	95	11.4	12.5	ZUB 8095
80	100	12	13	ZUB 80100
85	93	11.5	12.5	ZUB 8593
85	100	12	13	ZUB 85100
90	98	11.5	12.5	ZUB 9098
90	105	11.4	12.5	ZUB 90105
92	107	11.4	12.5	ZUB 92107
95	105	11.4	12.5	ZUB 95105
95	115	12	13	ZUB 95115
97	105	13	14	ZUB 97105
100	108	12	13	ZUB 100108
100	110	11.4	12.5	ZUB 100110
100	120	14.5	16	ZUB 100120
101.6	114.93	20.01	22	ZUB 101.6-1
105	113	11.5	12.5	ZUB 105113

d	D	h	H	Art.No.
107	115	11.5	12.5	ZUB 107115
110	125	14.5	16	ZUB 110125
110	130	14.5	16	ZUB 110130
118	126	13	14	ZUB 118126
120	130	11.4	12.5	ZUB 12013
120	130	14	15	ZUB 120-1
125	133	11.5	12.5	ZUB 125133
125	135	11.4	12.5	ZUB 125135
127	140.33	20.01	22	ZUB 127-1
130	145	12	13	ZUB 130145
140	160	14.5	16	ZUB 140160
145	153	11.5	12.5	ZUB 145153
145	155	11.4	12.5	ZUB 145155
150	160	11.4	12.5	ZUB 150160
150	170	15	16	ZUB 150170
152	160	9.1	10	ZUB 152160
152.4	165.73	20.01	22	ZUB 152.4-1
160	185	18.2	20	ZUB 160185
167	175	11.5	12.5	ZUB 167175
170	200	18	19	ZUB 170200
171	179	13	14	ZUB 171179
175	185	11.4	12.5	ZUB 175185
176	186	12	13	ZUB 176186
177.7	195	9.73	11.3	ZUB 177.7-1
180	188	11.5	12.5	ZUB 180188
180	190	11.4	12.5	ZUB 180190
193	201	11.5	12.5	ZUB 193201

ZUI

Standard materials

Seals material: polyurethane

Application scope

Mainly used for plunger or piston rod sealing in heavy-duty walking machinery or industrial hydraulic systems.

Features

- Excellent wear resistance and sealing performance
- High anti extrusion ability
- Low permanent compression deformation
- Suitable for harsh working conditions
- Easy to install

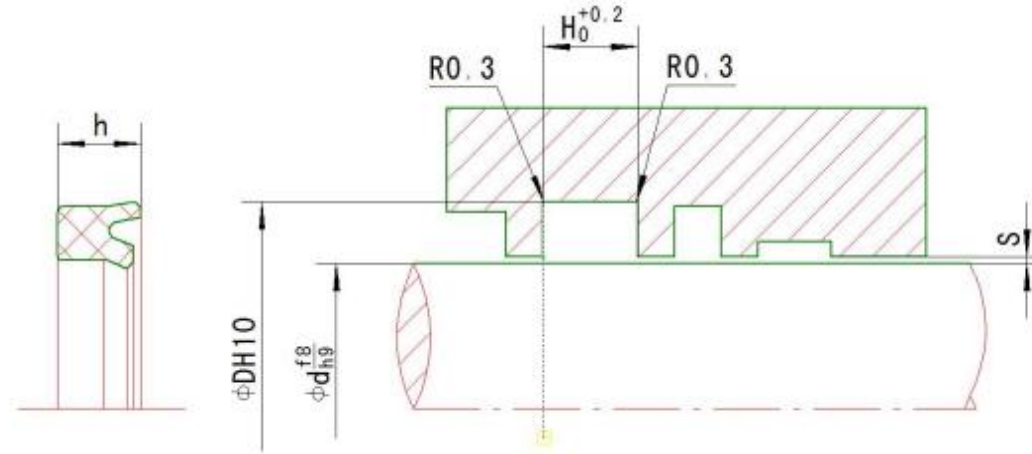
Operating conditions

Speed: $\leq 0.5\text{m/s}$

Pressure range: 0-40Mpa

Temperature: -35°C $+110^{\circ}\text{C}$

Section view



Groove Size

ZUI				
φd	φD	h	H	Art.No.
8	16	5	5.7	FS-ZUI 0816
8	18	6	7	FS-ZUI 0818
8	18	7.5	8.5	FS-ZUI 0818-1
8	18	8	9	FS-ZUI 0818-2
9	17	5	5.7	FS-ZUI 0917
9	19	6	7	FS-ZUI 0919
9	19	7.5	8.5	FS-ZUI 0919-1
9	19	8	9	FS-ZUI 0919-2
10	18	5	5.7	FS-ZUI 1018
10	20	6	7	FS-ZUI 1020
10	20	7.5	8.5	FS-ZUI 1020-1
10	20	8	9	FS-ZUI 1020-2
14	22	5	5.7	FS-ZUI 1422
14	24	6	7	FS-ZUI 1424
14	24	7.5	8.5	FS-ZUI 1424-1
14	24	8	9	FS-ZUI 1424-2
15	23	5	5.7	FS-ZUI 1523
15	25	6	7	FS-ZUI 1525
15	25	8	9	FS-ZUI 1525-1
15	28	8	9	FS-ZUI 1528
15	28	10	11	FS-ZUI 1528-1
16	24	5	5.7	FS-ZUI 1624
16	26	6	7	FS-ZUI 1626
16	26	7.5	8.5	FS-ZUI 1626-1
16	26	8	9	FS-ZUI 1626-2

ZUI				
ϕd	ϕD	h	H	Art.No.
18	28	6	7	FS-ZUI 1828
18	28	8	9	FS-ZUI 1828-1
18	31	8	9	FS-ZUI 1831
18	31	10	11	FS-ZUI 1831-1
20	30	6	7	FS-ZUI 2030
20	30	8	9	FS-ZUI 2030-1
20	33	8	9	FS-ZUI 2033
20	33	10	11	FS-ZUI 2033-1
22	35	10	11	FS-ZUI 2235
25	35	6	7	FS-ZUI 2535
25	35	8	9	FS-ZUI 2535-1
25	38	8	9	FS-ZUI 2538
25	38	10	11	FS-ZUI 2538-1
25	40	9	10	FS-ZUI 2540
25	40	10	11	FS-ZUI 2540-1
27	40	10	11	FS-ZUI 2740
28	38	6	7	FS-ZUI 2838
28	38	8	9	FS-ZUI 2838-1
28	41	8	9	FS-ZUI 2841
28	41	10	11	FS-ZUI 2841-1
28	43	9	10	FS-ZUI 2843
28	43	10	11	FS-ZUI 2843-1
30	40	8	9	FS-ZUI 3040
30	43	10	11	FS-ZUI 3043
30	45	9	10	FS-ZUI 3045
30	45	10	11	FS-ZUI 3045-1
34	50	12	13	FS-ZUI 3450
35	45	8	9	FS-ZUI 3545
35	50	9	10	FS-ZUI 3550
35	50	10	11	FS-ZUI 3550-1
35	50	12	13	FS-ZUI 3550-2
40	50	8	9	FS-ZUI 4050
40	55	9	10	FS-ZUI 4055
40	55	10	11	FS-ZUI 4055-1
40	56	10	11	FS-ZUI 4056
40	56	12	13	FS-ZUI 4056-1
45	55	8	9	FS-ZUI 4555
45	60	9	10	FS-ZUI 4560
45	60	10	11	FS-ZUI 4560-1
45	61	10	11	FS-ZUI 4561
45	61	12	13	FS-ZUI 4561-1

ZUI				
ϕd	ϕD	h	H	Art.No.
47	63	12	13	FS-ZUI 4763
50	60	8	9	FS-ZUI 5060
50	65	9	10	FS-ZUI 5065
50	65	10	11	FS-ZUI 5065-1
50	66	10	11	FS-ZUI 5066
50	66	12	13	FS-ZUI 5066-1
50	70	12	13	FS-ZUI 5070
53	69	12	13	FS-ZUI 5369
55	65	8	9	FS-ZUI 5565
55	70	9	10	FS-ZUI 5570
55	70	10	11	FS-ZUI 5570-1
55	71	10	11	FS-ZUI 5571
55	71	12	13	FS-ZUI 5571-1
55	75	12	13	FS-ZUI 5575
56	66	8	9	FS-ZUI 5666
56	71	9	10	FS-ZUI 5671
56	71	10	11	FS-ZUI 5671-1
56	72	10	11	FS-ZUI 5672
56	72	12	13	FS-ZUI 5672-1
56	76	12	13	FS-ZUI 5676
60	70	8	9	FS-ZUI 6070
60	75	9	10	FS-ZUI 6075
60	75	10	11	FS-ZUI 6075-1
60	76	10	11	FS-ZUI 6076
60	76	12	13	FS-ZUI 6076-1
60	80	12	13	FS-ZUI 6080
63	73	8	9	FS-ZUI 6373
63	78	9	10	FS-ZUI 6378
63	78	10	11	FS-ZUI 6378-1
63	79	10	11	FS-ZUI 6379
63	79	12	13	FS-ZUI 6379-1
63	83	12	13	FS-ZUI 6383
64	80	12	13	FS-ZUI 6480
65	75	8	9	FS-ZUI 6575
65	80	9	10	FS-ZUI 6580
65	80	12	13	FS-ZUI 6580-1
65	85	12	13	FS-ZUI 6585
67	82	9	10	FS-ZUI 6782
67	87	15	16	FS-ZUI 6787
70	80	8	9	FS-ZUI 7080
70	85	9	10	FS-ZUI 7085

ZUI				
φd	φD	h	H	Art.No.
70	85	10	11	FS-ZUI 7085-1
70	90	12	13	FS-ZUI 7090
70	90	15	16	FS-ZUI 7090-1
71	81	8	9	FS-ZUI 7181
71	86	9	10	FS-ZUI 7186
71	86	10	11	FS-ZUI 7186-1
71	91	12	13	FS-ZUI 7191
71	91	15	16	FS-ZUI 7191-1
75	85	8	9	FS-ZUI 7585
75	90	9	10	FS-ZUI 7590
75	90	10	11	FS-ZUI 7590-1
75	95	12	13	FS-ZUI 7595
75	95	15	16	FS-ZUI 7595-1
80	90	8	9	FS-ZUI 8090
80	95	9	10	FS-ZUI 8095
80	95	10	11	FS-ZUI 8095-1
80	100	12	13	FS-ZUI 80100
80	100	15	16	FS-ZUI 80100-1
85	100	10	11	FS-ZUI 85100
85	105	12	13	FS-ZUI 85105
85	105	15	16	FS-ZUI 85105-1
90	98	8	9	FS-ZUI 9098
90	105	10	11	FS-ZUI 90105
90	110	12	13	FS-ZUI 90110
90	110	15	16	FS-ZUI 90110-1
95	110	10	11	FS-ZUI 95110
95	115	12	13	FS-ZUI 95115
95	115	15	16	FS-ZUI 95115-1
100	108	8	9	FS-ZUI 100108
100	115	10	11	FS-ZUI 100115
100	120	12	13	FS-ZUI 100120
100	120	15	16	FS-ZUI 100120-1
105	120	10	11	FS-ZUI 105120
105	125	15	16	FS-ZUI 105125
105	125	16	17	FS-ZUI 105125-1
106	121	10	11	FS-ZUI 106121
106	126	15	16	FS-ZUI 106126
106	126	16	17	FS-ZUI 106126-1
110	125	10	11	FS-ZUI 110125
110	130	15	16	FS-ZUI 110130
110	130	16	17	FS-ZUI 110130-1
112	127	9	10	FS-ZUI 112127

ZUI				
φd	φD	h	H	Art.No.
112	127	10	11	FS-ZUI 112127-1
112	132	15	16	FS-ZUI 112132
112	132	16	17	FS-ZUI 112132-1
118	133	10	11	FS-ZUI 118133
118	138	15	16	FS-ZUI 118138
120	135	10	11	FS-ZUI 120135
120	140	15	16	FS-ZUI 120140
125	140	10	11	FS-ZUI 125140
125	145	12	13	FS-ZUI 125145
125	145	16	17	FS-ZUI 125145-1
125	150	20	21	FS-ZUI 125150
130	145	10	11	FS-ZUI 130145
130	150	12	13	FS-ZUI 130150
130	150	16	17	FS-ZUI 130150
132	157	20	21	FS-ZUI 132157
135	160	20	21	FS-ZUI 135160
140	155	10	11	FS-ZUI 140155
140	160	12	13	FS-ZUI 140160
140	160	16	17	FS-ZUI 140160-1
140	165	20	21	FS-ZUI 140165
145	170	20	21	FS-ZUI 145170
150	165	10	11	FS-ZUI 150165
150	170	12	13	FS-ZUI 150170
150	170	16	17	FS-ZUI 150170-1
150	175	20	21	FS-ZUI 150175
155	180	20	21	FS-ZUI 155180
160	175	10	11	FS-ZUI 160175
160	180	12	13	FS-ZUI 160180
160	180	16	17	FS-ZUI 160180-1
160	185	20	21	FS-ZUI 160185
170	185	10	11	FS-ZUI 170185
170	190	12	13	FS-ZUI 170190
170	190	16	17	FS-ZUI 170190-1
170	195	20	21	FS-ZUI 170195
175	200	20	21	FS-ZUI 175200
180	200	16	17	FS-ZUI 180200
180	205	20	21	FS-ZUI 180205
190	210	16	17	FS-ZUI 190210
190	215	20	21	FS-ZUI 190215
200	220	16	17	FS-ZUI 200220
200	225	20	21	FS-ZUI 200225
210	230	16	17	FS-ZUI 210230

ZUI				
ϕd	ϕD	h	H	Art.No.
210	235	20	21	FS-ZUI 210235
220	240	16	17	FS-ZUI 220240
220	245	20	21	FS-ZUI 220245
225	245	16	17	FS-ZUI 225245
225	250	20	21	FS-ZUI 225250
230	250	16	17	FS-ZUI 230250
230	255	20	21	FS-ZUI 230255
240	260	16	17	FS-ZUI 240260
240	265	20	21	FS-ZUI 240265
250	270	16	17	FS-ZUI 250270
250	275	20	21	FS-ZUI 250275
260	285	19	20	FS-ZUI 260285
260	290	20	21	FS-ZUI 260290

ZUA

Standard materials

Seals material: polyurethane

O-ring: nitrile rubber

Retaining ring: nylon or polyoxymethylene

Application scope

Mainly used for plunger or piston rod sealing in heavy--duty walking machinery or industrial hydraulic systems.

Features

- Excellent wear resistance
- Impact resistance
- Anti extrusion
- Small compression deformation
- Suitable for harsh working conditions
- Adequate lubrication due to the pressure medium between the sealing lips
- Improved sealing performance under zero pressure
- Prevent outside air entering excellently
- Easy to install

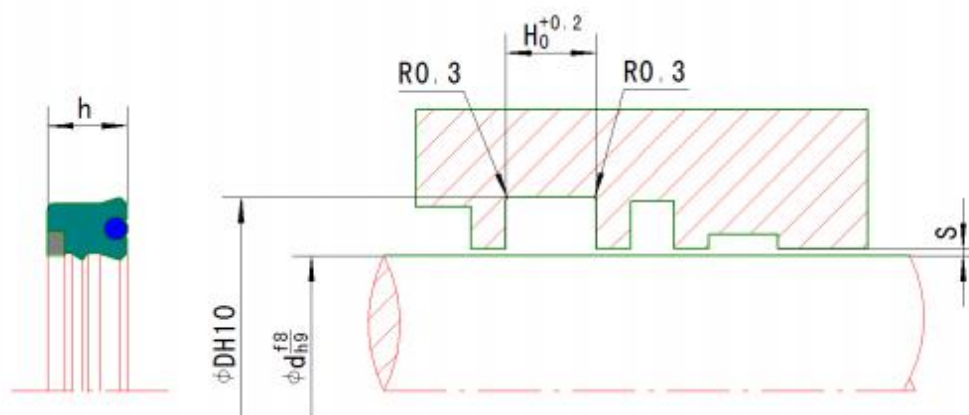
Operating conditions

Speed: $\leq 0.5\text{m/s}$

Pressure range: 0-50Mpa

Temperature: -35°C $+110^{\circ}\text{C}$

Section view:



Groove Size

Type ZUA					
d	D	h	H	S	Art.No.
40	55	11.4	12.5	0.25	FS-ZUA 4055
50	65	11.4	12.5	0.25	FS-ZUA 5065
56	71	11.4	12.5	0.25	FS-ZUA 5671
60	75	11.4	12.5	0.25	FS-ZUA 6075
63	78	11.4	12.5	0.25	FS-ZUA 6378
65	80	11.4	12.5	0.25	FS-ZUA 6580
70	85	11.4	12.5	0.25	FS-ZUA 7085
75	90	11.4	12.5	0.25	FS-ZUA 7590
80	95	11.4	12.5	0.25	FS-ZUA 8095
85	100	11.4	12.5	0.25	FS-ZUA 85100
85	100	12	13	0.25	FS-ZUA 85100-1
90	105	11.4	12.5	0.25	FS-ZUA 90105
95	110	12	13	0.25	FS-ZUA 95110
100	115	12	13	0.25	FS-ZUA 100115
100	120	13.5	15	0.3	FS-ZUA 100120
100	120	14.5	16	0.3	FS-ZUA 100120-1
110	125	14.5	16	0.3	FS-ZUA 110125
110	130	14.5	16	0.3	FS-ZUA 110130
120	140	14.5	16	0.3	FS-ZUA 120140
125	145	14.5	16	0.3	FS-ZUA 125145
130	150	14.5	16	0.3	FS-ZUA 130150
140	160	14.5	16	0.3	FS-ZUA 140160
150	170	14.5	16	0.3	FS-ZUA 150170
160	180	14.5	16	0.3	FS-ZUA 160180
170	190	14.5	16	0.3	FS-ZUA 170190
180	205	18.2	20	0.4	FS-ZUA 180205
190	215	18.2	20	0.4	FS-ZUA 190215



Type ZUA					
d	D	h	H	S	Art.No.
200	230	22.7	25	0.4	FS-ZUA 200230
220	250	22.7	25	0.4	FS-ZUA 220250
230	260	22.7	25	0.4	FS-ZUA 230260
240	270	22.7	25	0.4	FS-ZUA 240270

HCH

Standard materials

Seals material: polyurethane

Retaining ring: nylon or polyoxymethylene

Application scope

This product is used in combination with piston rod seals to absorb impact and fluctuating pressure under high loads, isolate high-temperature fluids, and improve durability of seals.

Features

-The special shaped groove on the sliding lip that can release backpressure can eliminate the pressure between the piston rod seal and the buffer ring.

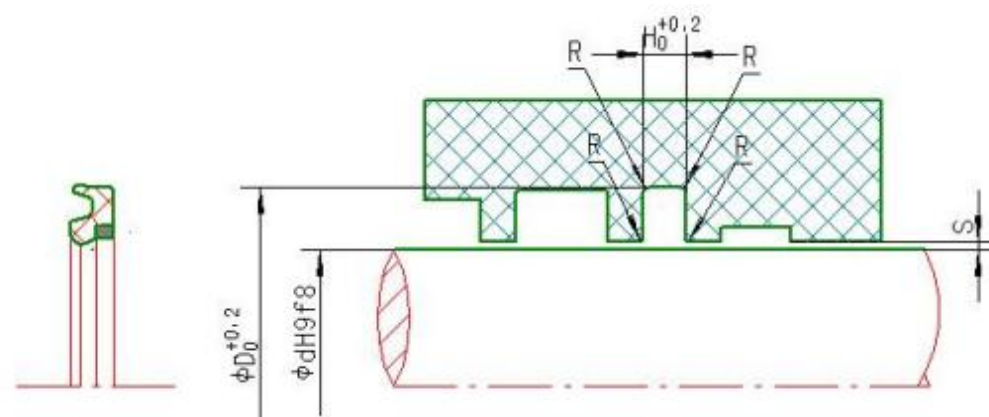
Operating conditions

Speed: $\leq 1\text{m/s}$

Pressure range: 0-50Mpa

Temperature: -35°C $+110^{\circ}\text{C}$

Section view:



Groove Size

Tyee HCH				
ϕd	ϕD	h	H	Art.No.
35.5	51	6	6.3	FS-HCH 35.5
40	55.5			FS-HCH 40
45	60.5			FS-HCH 45
50	65.5			FS-HCH 50
55	70.5			FS-HCH 55
60	75.5			FS-HCH 60
65	80.5			FS-HCH 65
70	85.5			FS-HCH 70
75	90.5			FS-HCH 75
80	95.5			FS-HCH 80
85	100.5			FS-HCH 85
90	105.5			FS-HCH 90
95	110.5			FS-HCH 95
100	115.5			FS-HCH 100
105	120.5			FS-HCH 105
110	125.5			FS-HCH 110
115	130.5			FS-HCH 115
120	135.5			FS-HCH 120
125	140.5			FS-HCH 125
130	145.5			FS-HCH 130
132	147.5			FS-HCH 135
135	150.5			FS-HCH 140
140	155.5			FS-HCH 145
150	165.5			FS-HCH 150
160	175.5			FS-HCH 160
170	185.5			FS-HCH 170
180	195.5			FS-HCH 180
190	205.5			FS-HCH 190
200	221	7.7	8	FS-HCH 200
210	231			FS-HCH 210

ZJS

Standard materials

Seals material: filling PTFE

Elastomer: Polyurethane

Application scope

Mainly used for sealing hydraulic cylinder piston rods, usually used in conjunction with guide sleeves.

Features

- High pressure stability under pressure and harsh conditions
- High wear resistance
- Low friction, no stick-slip phenomenon

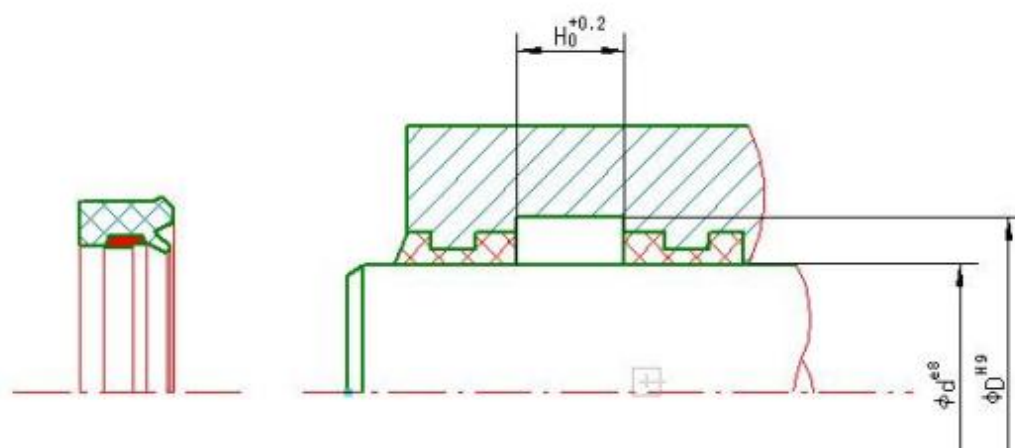
Operating conditions

Speed: $\leq 1\text{m/s}$

Pressure range: 0-45Mpa

Temperature: -35°C $+110^{\circ}\text{C}$

Section view



Groove Size

Installation size					
Description	Type	Shaft dia. d e8	Groove outside dia.D H9	Groove width LD10	H
Piston Rod Seals	ZJS	20-30	d+8	7.5	7
		31-35	d+8	7.5	7
		36-44	d+8	8.5	8
		45-55	d+10	11	10
		56-119	d+15	13	12
		120-319	d+20	17	16
		320-499	d+30	21	20
		>499	d+40	26	25

ZJS			
Shaft dia. d e8	Groove outside dia. D H9	Groove width L D10	Art.No.
20	28	7.5	FS-ZJS 2028
22	30	7.5	FS-ZJS 2230
23	31	7.5	FS-ZJS 2331
25	33	7.5	FS-ZJS 2533
28	36	7.5	FS-ZJS 2836
30	38	7.5	FS-ZJS 3038
32	40	7.5	FS-ZJS 3240
35	43	7.5	FS-ZJS 3543
36	44	11	FS-ZJS 3644
40	48	11	FS-ZJS 4048
42	50	11	FS-ZJS 4250
45	55	11	FS-ZJS 4555
47	57	11	FS-ZJS 4757
48	58	11	FS-ZJS 4858
50	60	11	FS-ZJS 5060
52	62	11	FS-ZJS 5262
55	65	11	FS-ZJS 5565
56	71	13	FS-ZJS 5671
60	75	13	FS-ZJS 6075
63	78	13	FS-ZJS 6378
65	80	13	FS-ZJS 6580
68	78	13	FS-ZJS 6878
70	85	13	FS-ZJS 7085
72	87	13	FS-ZJS 7287
75	90	13	FS-ZJS 7590
80	95	13	FS-ZJS 8095

ZJS			
Shaft dia.	Groove outside dia.	Groove width	Art.No.
d e8	D H9	L D10	
83	98	13	FS-ZJS 8398
85	100	13	FS-ZJS 85100
87	102	13	FS-ZJS 87102
90	105	13	FS-ZJS 90105
95	110	13	FS-ZJS 95110
96	111	13	FS-ZJS 96111
100	115	13	FS-ZJS 100115
100	120	15	FS-ZJS 100120
105	120	13	FS-ZJS 105120
110	125	13	FS-ZJS 110125
115	126	16	FS-ZJS 115126
115	130	13	FS-ZJS 115130
120	140	17	FS-ZJS 120140
125	145	17	FS-ZJS 125145
130	150	17	FS-ZJS 130150
135	155	17	FS-ZJS 135155
140	155	18	FS-ZJS 140155
140	160	17	FS-ZJS 140160
150	170	17	FS-ZJS 150170
155	175	17	FS-ZJS 155175
160	180	17	FS-ZJS 160180
165	185	17	FS-ZJS 165185
170	190	17	FS-ZJS 170190
175	195	17	FS-ZJS 175195
180	200	17	FS-ZJS 180200
185	205	17	FS-ZJS 185205
190	210	17	FS-ZJS 190210
200	220	17	FS-ZJS 200220
220	240	17	FS-ZJS 220240
225	245	17	FS-ZJS 225245
230	250	17	FS-ZJS 230250
240	260	17	FS-ZJS 240260
250	270	17	FS-ZJS 250270
260	280	17	FS-ZJS 260280
280	300	17	FS-ZJS 280300
300	320	17	FS-ZJS 300320
350	380	17	FS-ZJS 350380
500	540	26.5	FS-ZJS 500540
630	670	26.5	FS-ZJS 630670
1000	1040	26.5	FS-ZJS 10001040

ZJSA

Standard materials

Seals material: filling PTFE

Elastomer: Polyurethane

Application scope

Mainly used for series sealing in various liquid applications, it belongs to internal sealing. Mainly used for piston and plunger sealing. Can be used in mineral oil, modified mineral oil, fire retardant hydraulic oil and compressed air.

Features

- Easy to install
- High wear resistance
- Low friction, no stick-slip phenomenon

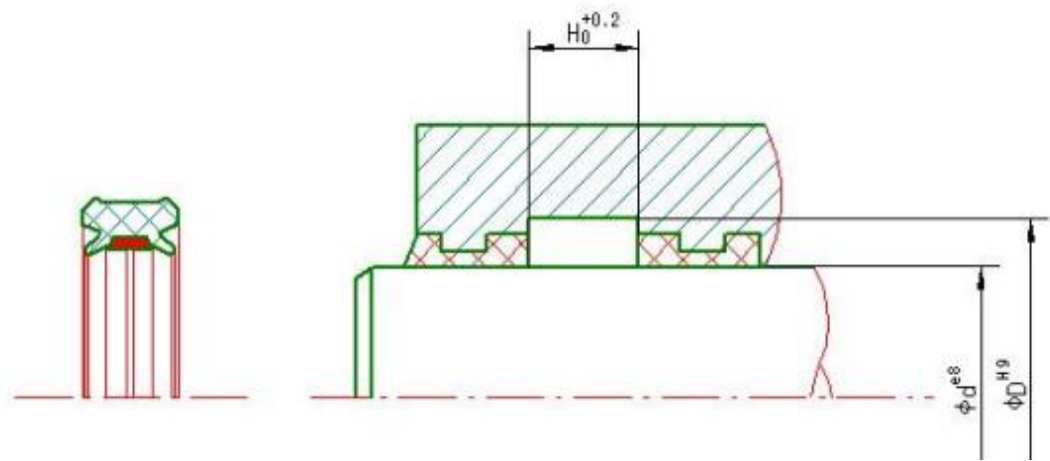
Operating conditions

Speed: $\leq 1\text{m/s}$

Pressure range: 0-25Mpa

Temperature: -35°C $+110^{\circ}\text{C}$

Section view



Groove Size

Installation size					
Description	Type	Shaft dia. d e8	Groove outside dia.D H9	Groove widthL D10	H
Piston rod seals	ZJSA	20-56	d+10	16	15
		57-140	d+13	16	15
		> 140	d+15	16	15

ZJSA					
d e8	D H9	H	L D10	e	Art.No.
20	30	15	16	6	FS-ZJSA 2030
22	32	15	16	6	FS-ZJSA 2232
25	35	15	16	6	FS-ZJSA 2535
28	38	15	16	6	FS-ZJSA 2838
30	40	15	16	6	FS-ZJSA 3040
32	42	15	16	6	FS-ZJSA 3242
35	45	15	16	6	FS-ZJSA 3545
36	46	15	16	6	FS-ZJSA 3646
40	50	15	16	6	FS-ZJSA 4050
42	52	15	16	6	FS-ZJSA 4252
45	55	15	16	6	FS-ZJSA 4555
50	60	15	16	6	FS-ZJSA 5060
55	65	15	16	6	FS-ZJSA 5565
56	66	15	16	6	FS-ZJSA 5666
60	73	15	16	7	FS-ZJSA 6073
63	76	15	16	7	FS-ZJSA 6376

ZJSA					
d e8	D H9	H	L D10	e	Art.No.
65	78	15	16	7	FS-ZJSA 6578
70	83	15	16	7	FS-ZJSA 7083
72	85	15	16	7	FS-ZJSA 7285
75	88	15	16	7	FS-ZJSA 7588
80	93	15	16	7	FS-ZJSA 8093
85	98	15	16	7	FS-ZJSA 8598
90	103	15	16	7	FS-ZJSA 90103
95	108	15	16	7	FS-ZJSA 95108
100	113	15	16	7	FS-ZJSA 100113
105	118	15	16	10	FS-ZJSA 105118
110	120	15	16	10	FS-ZJSA 110120
110	123	15	16	10	FS-ZJSA 110123
115	128	15	16	10	FS-ZJSA 115128
120	133	15	16	10	FS-ZJSA 120133
125	138	15	16	10	FS-ZJSA 125138
130	143	15	16	10	FS-ZJSA 130143
140	153	15	16	10	FS-ZJSA 140153
150	162	15	16	10	FS-ZJSA 150162
150	165	15	16	10	FS-ZJSA 150165
160	175	15	16	10	FS-ZJSA 160175
165	180	15	16	10	FS-ZJSA 165180
170	185	15	16	10	FS-ZJSA 170185
180	195	15	16	10	FS-ZJSA 180195
185	200	15	16	10	FS-ZJSA 185200
190	205	15	16	10	FS-ZJSA 190205
200	215	15	16	10	FS-ZJSA 200215
220	235	15	16	10	FS-ZJSA 220235
225	240	15	16	10	FS-ZJSA 225240
230	245	15	16	10	FS-ZJSA 230245
240	455	15	16	10	FS-ZJSA 240255
250	265	15	16	10	FS-ZJSA 250265
260	275	15	16	10	FS-ZJSA 260275
280	295	15	16	10	FS-ZJSA 280295
290	305	15	16	10	FS-ZJSA 290305
300	312	15	16	15	FS-ZJSA 300312
300	315	15	16	15	FS-ZJSA 300315
320	335	15	16	15	FS-ZJSA 320335
350	365	15	16	15	FS-ZJSA 350365
360	375	15	16	15	FS-ZJSA 360375
380	395	15	16	15	FS-ZJSA 380395
400	415	15	16	15	FS-ZJSA 400415



ZJSA					
d e8	D H9	H	L D10	e	Art.No.
450	465	15	16	15	FS-ZJSA 450465
480	495	15	16	15	FS-ZJSA 480495
500	515	15	16	15	FS-ZJSA 500515
550	565	15	16	15	FS-ZJSA 550565
560	575	15	16	15	FS-ZJSA 560575
600	615	15	16	15	FS-ZJSA 600615
650	665	15	16	15	FS-ZJSA 650665

ZSTF

Standard materials

Seals material: filling PTFE

O-ring: nitrile rubber or fluorine rubber

Application scope

Mainly used for hydraulic reciprocating motion. Excellent sealing performance in high, medium, low pressure, heavy-duty, and high-frequency working conditions. Suitable for kinds of strokes, wide range of fluid and high-temperature applications, also suitable for larger piston rod clearances.

Features

- Good dynamic and static sealing performance
- Good extrusion resistance
- Stable size, not affected by temperature
- No trapped pressure, multiple serial Installation
- Excellent buffering effect on strong impact pressure
- Low friction, no crawling or sticking phenomenon
- Strong corrosion resistance
- Simple groove structure
- Long lifespan
- It can work with or without lubrication
- Easy to install

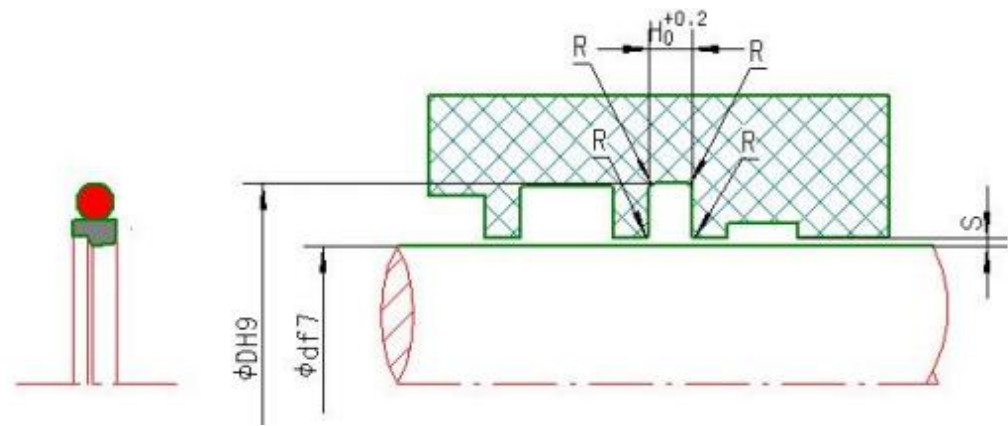
Operating conditions

Speed: $\leq 5\text{m/s}$

Pressure range: 0-60Mpa

Temperature: -35°C $+200^{\circ}\text{C}$

Section view



Groove Size

O-ring section	Suggested standard rod dia. range d(mm)		Groove width	Groove depth	Max clearance 0-200bar	Max clearance 200-400bar
	mm				S(mm)	S(mm)
1.78	≥ 4	< 8	H(mm)	G(mm)	S(mm)	S(mm)
1.78	4	8	2.2	2.45	0.6-0.4	0.4-0.2
2.62	8	19	3.2	3.65	0.8-0.5	0.5-0.3
3.53	19	38	4.2	5.35	0.8-0.5	0.5-0.3
5.33	38	200	6.3	7.55	1.0-0.6	0.6-0.4
6.99	200	256	8.1	10.25	1.0-0.6	0.6-0.4
6.99	256	650	8.1	12	1.2-0.7	0.7-0.5
8.4	650	1000	9.5	13.65	1.4-0.8	0.8-0.6
12	1000		13.8	19	1.4-0.8	0.8-0.6

ZSTF			
d	D	H	Art.No.
4	8.9	2.2	FS-ZSTF 04
5	9.9	2.2	FS-ZSTF 05
7	11.9	2.2	FS-ZSTF 07
8	15.3	3.2	FS-ZSTF 08
10	17.3	3.2	FS-ZSTF 10
12	19.3	3.2	FS-ZSTF 12
14	21.3	3.2	FS-ZSTF 14
15	22.3	3.2	FS-ZSTF 15
16	23.3	3.2	FS-ZSTF 16
18	25.3	3.2	FS-ZSTF 18
20	30.7	4.2	FS-ZSTF 20
22	32.7	4.2	FS-ZSTF 22

ZSTF			
d	D	H	Art.No.
24	34.7	4.2	FS-ZSTF 24
25	35.7	4.2	FS-ZSTF 25
26	36.7	4.2	FS-ZSTF 26
28	38.7	4.2	FS-ZSTF 28
30	40.7	4.2	FS-ZSTF 30
32	42.7	4.2	FS-ZSTF 32
35	45.7	4.2	FS-ZSTF 35
36	46.7	4.2	FS-ZSTF 36
37	47.7	4.2	FS-ZSTF 37
38	53.1	6.3	FS-ZSTF 38
40	55.1	6.3	FS-ZSTF 40
42	57.1	6.3	FS-ZSTF 42
45	60.1	6.3	FS-ZSTF 45
48	63.1	6.3	FS-ZSTF 48
50	65.1	6.3	FS-ZSTF 50
52	67.1	6.3	FS-ZSTF 52
55	70.1	6.3	FS-ZSTF 55
56	71.1	6.3	FS-ZSTF 56
60	75.1	6.3	FS-ZSTF 60
63	78.1	6.3	FS-ZSTF 63
65	80.1	6.3	FS-ZSTF 65
70	85.1	6.3	FS-ZSTF 70
75	90.1	6.3	FS-ZSTF 75
80	95.1	6.3	FS-ZSTF 80
85	100.1	6.3	FS-ZSTF 85
90	105.1	6.3	FS-ZSTF 90
95	110.1	6.3	FS-ZSTF 95
100	115.1	6.3	FS-ZSTF 100
110	125.1	6.3	FS-ZSTF 110
120	135.1	6.3	FS-ZSTF 120
125	140.1	6.3	FS-ZSTF 125
130	145.1	6.3	FS-ZSTF 130
140	155.1	6.3	FS-ZSTF 140
150	165.1	6.3	FS-ZSTF 150
155	170.1	6.3	FS-ZSTF 155
160	175.1	6.3	FS-ZSTF 160
170	185.1	6.3	FS-ZSTF 170
175	190.1	6.3	FS-ZSTF 175
180	195.1	6.3	FS-ZSTF 180
185	200.1	6.3	FS-ZSTF 185
190	205.1	6.3	FS-ZSTF 190

ZSTF			
d	D	H	Art.No.
195	210.1	6.3	FS-ZSTF 195
200	220.5	8.1	FS-ZSTF 200
210	23.05	8.1	FS-ZSTF 210
220	240.5	8.1	FS-ZSTF 220
225	245.5	8.1	FS-ZSTF 225
230	250.5	8.1	FS-ZSTF 230
240	260.5	8.1	FS-ZSTF 240
250	270.5	8.1	FS-ZSTF 250
260	284	8.1	FS-ZSTF 260
270	294	8.1	FS-ZSTF 270
280	304	8.1	FS-ZSTF 280
290	314	8.1	FS-ZSTF 290
300	324	8.1	FS-ZSTF 300
310	334	8.1	FS-ZSTF 310
320	344	8.1	FS-ZSTF 320
330	354	8.1	FS-ZSTF 330
340	364	8.1	FS-ZSTF 340
350	374	8.1	FS-ZSTF 350
360	384	8.1	FS-ZSTF 360
370	394	8.1	FS-ZSTF 370
380	404	8.1	FS-ZSTF 380
390	414	8.1	FS-ZSTF 390
400	424	8.1	FS-ZSTF 400
410	434	8.1	FS-ZSTF 410
420	444	8.1	FS-ZSTF 420
430	454	8.1	FS-ZSTF 430
440	464	8.1	FS-ZSTF 440
450	474	8.1	FS-ZSTF 450
460	484	8.1	FS-ZSTF 460
470	494	8.1	FS-ZSTF 470
480	504	8.1	FS-ZSTF 480
490	514	8.1	FS-ZSTF 490
500	524	8.1	FS-ZSTF 500
510	534	8.1	FS-ZSTF 510
520	544	8.1	FS-ZSTF 520
530	554	8.1	FS-ZSTF 530
540	564	8.1	FS-ZSTF 540
550	574	8.1	FS-ZSTF 550
560	584	8.1	FS-ZSTF 560
580	604	8.1	FS-ZSTF 580
600	624	8.1	FS-ZSTF 600

ZSTF			
d	D	H	Art.No.
650	677.3	9.5	FS-ZSTF 650
700	727.3	9.5	FS-ZSTF 700
800	827.3	9.5	FS-ZSTF 800
900	927.3	9.5	FS-ZSTF 900
1000	1038	13.8	FS-ZSTF 1000
1100	1138	13.8	FS-ZSTF 1100
1300	1338	13.8	FS-ZSTF 1300

ZGLQ

Standard materials

Seals material: filling PTFE

O-ring:nitrile rubber or fluorine rubber

Application scope

Mainly used for hydraulic reciprocating motion. Excellent sealing performance in high, medium, low pressure, heavy-duty, and high-frequency working conditions. Suitable for kinds of strokes, wide range of fluid and high-temperature applications, also suitable for larger piston rod clearances.

Features

- Good static sealing performance
- Allow for larger extrusion clearance
- Due to the large extrusion clearance, it can be safely used in contaminated media
- Low friction, no crawling
- Simple groove structure

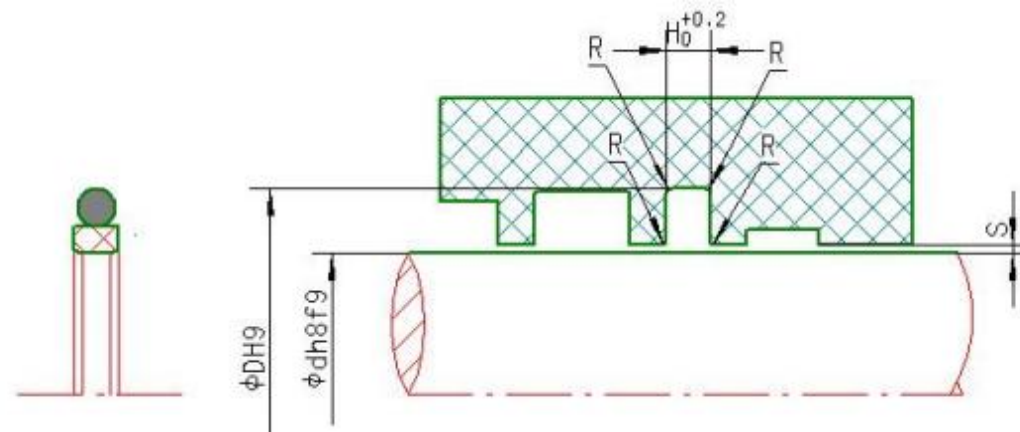
Operating conditions

Speed: $\leq 5\text{m/s}$

Pressure range: 0-60Mpa

Temperature: -35°C $+200^{\circ}\text{C}$

Section view



Groove Size

Shaft dia.d h8f9			Groove Outside Dia.	Groove Width	Radial clearance			O-ring section
Specification	Light Duty	Heavy Duty	DH9	H	10 Mpa	20 MPa	40 MPa	
3-7.9	8-18.9	-	d+4.9	2.2	0.3	0.2	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	0.2	3.53
38-199.9	200-255.9	19-37.9	d+15.1	6.3	0.5	0.3	0.2	5.33
200-255.9	256-649.4	38-199.9	d+20.5	8.1	0.6	0.35	0.25	7
256-649.9	650-999.9	200-255.9	d+24.0	8.1	0.6	0.35	0.25	7
650-999.9	≥ 1000.0	256-649.9	d+27.3	9.5	0.7	0.5	0.3	8.4
≥ 1000.0	-	650-999.9	d+38.0	13.8	1	0.7	0.6	12

ZGLQ			
Shaft diameter	Outside diameter	Width	Art.No.
d	D	H	
5	9.9	2.2	FS-ZGLQ 05
6	10.9	2.2	FS-ZGLQ 06
7	11.9	3.2	FS-ZGLQ 07
8	15.3	3.2	FS-ZGLQ 08
10	17.3	3.2	FS-ZGLQ 10
12	19.3	3.2	FS-ZGLQ 12
14	21.3	3.2	FS-ZGLQ 14
15	22.3	3.2	FS-ZGLQ 15
18	25.3	3.2	FS-ZGLQ 18

ZGLQ			
Shaft diameter	Outside diameter	Width	Art.No.
d	D	H	
19	29.7	4.2	FS-ZGLQ 19
20	30.7	4.2	FS-ZGLQ 20
22	32.7	4.2	FS-ZGLQ 22
25	35.7	4.2	FS-ZGLQ 25
26	36.7	4.2	FS-ZGLQ 26
28	38.7	4.2	FS-ZGLQ 28
30	40.7	4.2	FS-ZGLQ 30
32	42.7	4.2	FS-ZGLQ 32
35	45.7	4.2	FS-ZGLQ 35
36	46.7	4.2	FS-ZGLQ 36
38	53.1	6.3	FS-ZGLQ 38
40	55.1	6.3	FS-ZGLQ 40
42	57.1	6.3	FS-ZGLQ 42
45	60.1	6.3	FS-ZGLQ 45
48	63.1	6.3	FS-ZGLQ 48
50	65.1	6.3	FS-ZGLQ 50
55	70.1	6.3	FS-ZGLQ 55
60	75.1	6.3	FS-ZGLQ 60
63	78.1	6.3	FS-ZGLQ 63
65	80.1	6.3	FS-ZGLQ 65
70	85.1	6.3	FS-ZGLQ 70
75	90.1	6.3	FS-ZGLQ 75
80	90.7	4.2	FS-ZGLQ 80-1
80	95.1	6.3	FS-ZGLQ 80
85	100.1	6.3	FS-ZGLQ 85
90	105.1	6.3	FS-ZGLQ 90
95	110.1	6.3	FS-ZGLQ 95
100	115.1	6.3	FS-ZGLQ 100
105	120.1	6.3	FS-ZGLQ 105
110	125.1	6.3	FS-ZGLQ 110
112	127.1	6.3	FS-ZGLQ 112
115	130.1	6.3	FS-ZGLQ 115
118	133.1	6.3	FS-ZGLQ 118

ZGLQ			
Shaft diameter	Outside diameter	Width	Art.No.
d	D	H	
120	135.1	6.3	FS-ZGLQ 120
125	140.1	6.3	FS-ZGLQ 125
130	145.1	6.3	FS-ZGLQ 130
135	150.1	6.3	FS-ZGLQ 135
140	155.1	6.3	FS-ZGLQ 140
145	160.1	6.3	FS-ZGLQ 145
150	165.1	6.3	FS-ZGLQ 150
160	175.1	6.3	FS-ZGLQ 160
160	180.5	8.1	FS-ZGLQ 160-1
165	180.1	6.3	FS-ZGLQ 165
170	185.1	6.3	FS-ZGLQ 170
175	190.1	6.3	FS-ZGLQ 175
180	195.1	6.3	FS-ZGLQ 180
180	200.5	8.1	FS-ZGLQ 180-1
190	205.1	6.3	FS-ZGLQ 190
200	215.1	6.3	FS-ZGLQ 200
200	220.5	8.1	FS-ZGLQ 200-1
210	230.5	8.1	FS-ZGLQ 210
220	235.1	6.3	FS-ZGLQ 220
220	240.5	8.1	FS-ZGLQ 220-1
230	245.1	6.3	FS-ZGLQ 230
230	250.5	8.1	FS-ZGLQ 230-1
240	260.5	8.1	FS-ZGLQ 240
250	270.5	8.1	FS-ZGLQ 250
260	284	8.1	FS-ZGLQ 260
270	290.5	8.1	FS-ZGLQ 270
270	294	8.1	FS-ZGLQ 270-1
275	299	8.1	FS-ZGLQ 275
280	300.5	8.1	FS-ZGLQ 280
280	304	8.1	FS-ZGLQ 280-1
290	314	8.1	FS-ZGLQ 290
300	324	8.1	FS-ZGLQ 300
310	334	8.1	FS-ZGLQ 310

ZGLQ			
Shaft diameter	Outside diameter	Width	Art.No.
d	D	H	
320	344	8.1	FS-ZGLQ 320
330	354	8.1	FS-ZGLQ 330
340	364	8.1	FS-ZGLQ 340
350	374	8.1	FS-ZGLQ 350
360	384	8.1	FS-ZGLQ 360
370	394	8.1	FS-ZGLQ 370
380	404	8.1	FS-ZGLQ 380
390	414	8.1	FS-ZGLQ 390
400	424	8.1	FS-ZGLQ 400
410	434	8.1	FS-ZGLQ 410
420	444	8.1	FS-ZGLQ 420
430	454	8.1	FS-ZGLQ 430
440	464	8.1	FS-ZGLQ 440
450	474	8.1	FS-ZGLQ 450
460	484	8.1	FS-ZGLQ 460
470	494	8.1	FS-ZGLQ 470
480	504	8.1	FS-ZGLQ 480
490	514	8.1	FS-ZGLQ 490
500	524	8.1	FS-ZGLQ 500
510	534	8.1	FS-ZGLQ 510

ZCA

Standard materials

Seals material: filling PTFE

O-ring: nitrile rubber or fluorine rubber

Application scope

Suitable for end static sealing in hydraulic and pneumatic systems.

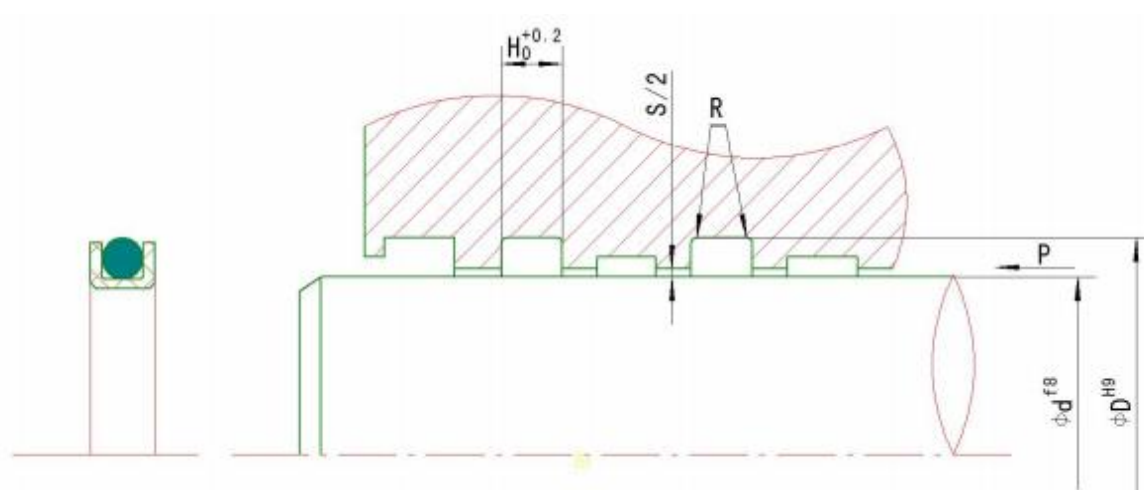
Operating conditions

Speed: $\leq 6\text{m/s}$

Pressure range: 0-70Mpa

Temperature: -55°C $+250^{\circ}\text{C}$

Section view



Groove Size

C-type piston rod for ZCA shaft					
Cylinder dia.	Groove bottom dia.	Groove width	O-ring surface dia.	Fillet	Clearance
D H9	d f8	H+0.2	t	R	S≤
10-22.	D+4.5	4.5	2.4	0.2-0.3	0.2
23-160	D+5.7	5.6	3.1	0.3-0.4	0.3
22-50	D+6.5	6.2	3.5	0.4-0.6	0.3
40-290	D+10.4	9.8	5.7	0.6-0.8	0.4
155-1000	D+15.2	13.6	8.6	0.8-1.2	0.4
Note: Cylinder dia.D≤Φ90mm, it is suggested to use open grooves. If you need to use closed groove, please contact our technical department.					

ZJA

Standard materials

Seals material: filling PTFE

O-ring: nitrile rubber or fluorine rubber

Application scope

Suitable for end static sealing in hydraulic and pneumatic systems.

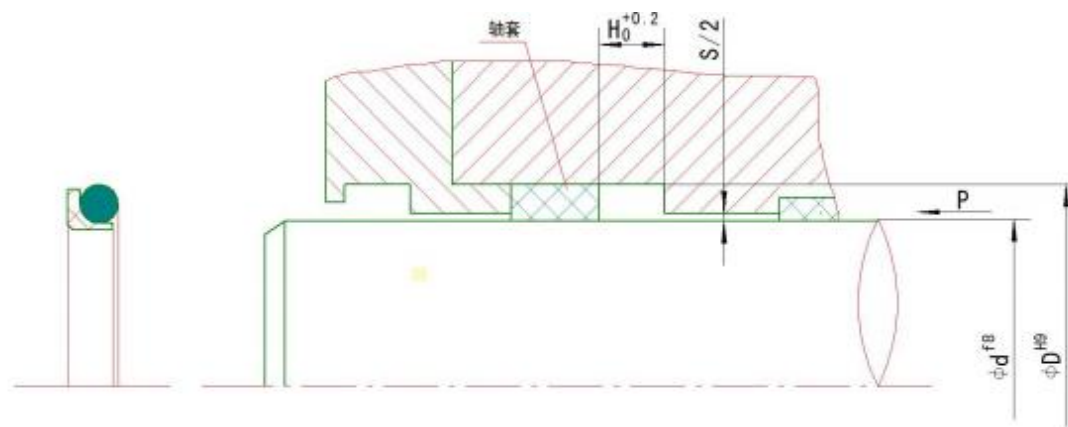
Operating conditions

Speed: $\leq 6\text{m/s}$

Pressure range: 0-200Mpa

Temperature: -55°C $+250^{\circ}\text{C}$

Section view





Groove Size

Cylinder dia.	Groove bottom dia.	Groove width	O-ring surface dia.	Fillet
D H9	d f8	H+0.2	t	S≤
22-39	D+6.8	8	3.5	0.3
40-154	D+10.8	11.5	5.7	0.4
155-1000	D+16.1	16.3	8.6	0.4
Note: It is suggested to use materials such as bronze and cast iron to make the shaft sleeve				

ZCB

Standard materials

Seals material: filling PTFE

O-ring: nitrile rubber or fluorine rubber

Application scope

Suitable for end static sealing in hydraulic and pneumatic systems.

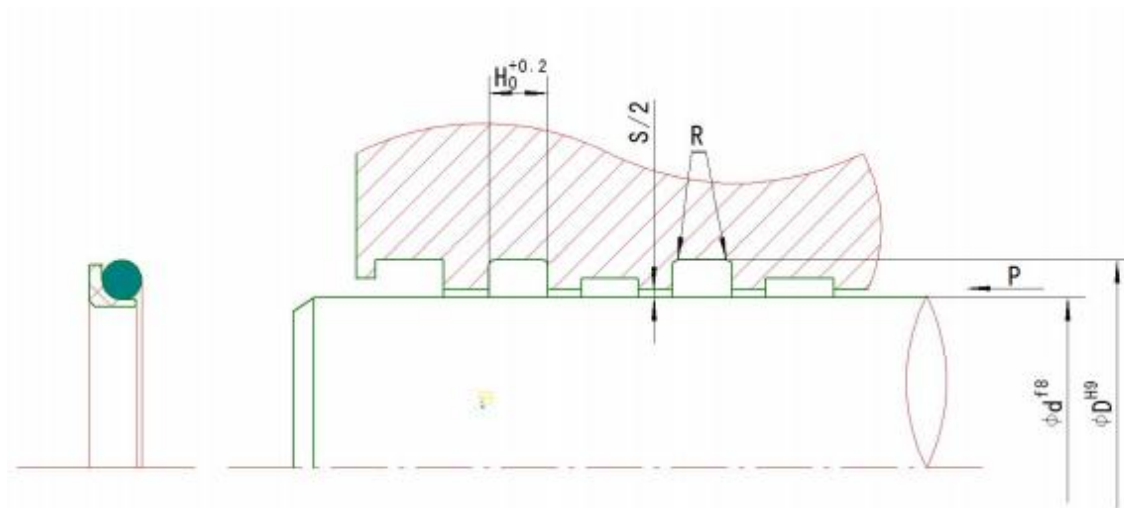
Operating conditions

Speed: $\leq 6\text{m/s}$

Pressure range: 0-60Mpa

Temperature: -55°C $+250^{\circ}\text{C}$

Section view



Groove Size

Cylinder dia.	Groove bottom dia.	Groove width	O-ring surface dia.	Fillet	Clearance
D H9	d f8	H+0.2	t	R	S≤
10-22.	D+4.5	4	2.4	0.2-0.3	0.2
23-160	D+5.7	4.8	3.1	0.3-0.4	0.3
22-50	D+6.5	5.2	3.5	0.4-0.6	0.3
40-290	D+10.4	8.2	5.7	0.6-0.8	0.4
155-1000	D+15.2	11.6	8.6	0.8-1.2	0.4
Note: Cylinder dia.D≤Φ70mm, it is suggested to use open grooves. If you need to use closed groove, please contact our technical department.					

KGL

Standard materials

Sealing ring: filling PTFE

O-ring: nitrile rubber or fluorine rubber

X-ring: nitrile rubber or fluorine rubber

Application scope

It can be used for piston accumulator with bidirectional movement, position control cylinders and clamping cylinders.

Features

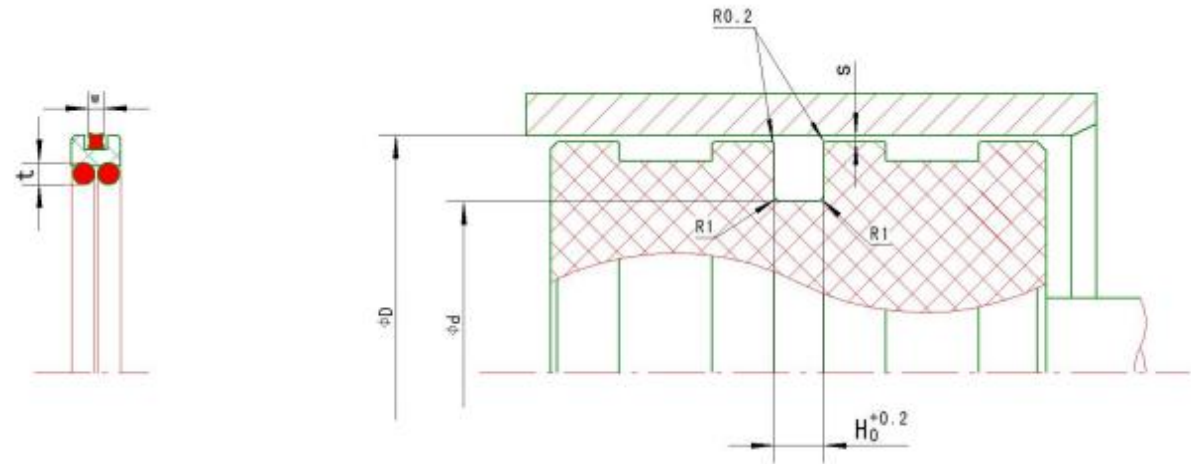
- In situations where separation of two media is required, the sealing effect is good
- Integrating low friction and high elasticity, with dual safety features
- Low gas permeability
- Good sliding performance in high voltage applications
- Good sliding performance, no crawling
- Simple groove structure,easy to install

Operating conditions

Speed: $\leq 3\text{m/s}$

Pressure range: 0-60Mpa

Temperature: -30°C $+200^{\circ}\text{C}$



Groove Size:

Cylinder hole dia. D		Groove dia. s.	Groove width	Radial clearance			O-ring section	X-ring section
		d	H+0.2	S			t	W
Suggested range	Extend range			10 MPa	20 MPa	30 MPa		
40-79.9	25-140	D-10	6.3	0.3	0.2	0.15	2.62	1.78
80-132.9	50-250	D-13	8.3	0.4	0.3	0.15	3.53	2.62
133-642.9	100-480	D-18	12.3	0.4	0.3	0.2	5.33	3.53
463-700	425-700	D-31	16.3	0.5	0.4	0.3	7	5.33

Cylinder hole dia.	Groove Dia.	Groove width	O-ring size	X-ring section	Art.No.
D	d	H			
40	30	6.3	29.82x2.62	34.65x1.78	FS-KGL 4030
42	32	6.3	31.42x2.62	37.82x1.78	FS-KGL 4232
45	35	6.3	34.59x2.62	37.82x1.78	FS-KGL 4535
48	38	6.3	37.77x2.62	41x1.78	FS-KGL 4838
50	40	6.3	39.34x2.62	44.17x1.78	FS-KGL 5040
52	42	6.3	40.94x2.62	47.35x1.78	FS-KGL 5242
55	45	6.3	44.12x2.62	50.52x1.78	FS-KGL 5545
60	50	6.3	48.9x2.62	53.7x1.78	FS-KGL 6050
63	53	6.3	52.07x2.62	56.87x1.78	FS-KGL 6353
65	55	6.3	53.64x2.62	60.05x1.78	FS-KGL 6555
70	60	6.3	58.42x2.62	63.22x1.78	FS-KGL 7060
75	65	6.3	63.17x2.62	69.57x1.78	FS-KGL 7565
80	67	8.3	66.27x3.53	71.12x2.62	FS-KGL 8067

Cylinder hole dia.	Groove Dia.	Groove width	O-ring size	X-ring section	Art.No.
D	d	H			
85	72	8.3	69.44x3.53	75.87x2.62	FS-KGL 8572
90	77	8.3	75.79x3.53	82.22x2.62	FS-KGL 9077
95	82	8.3	78.97x3.53	82.22x2.62	FS-KGL 9582
100	87	8.3	85.32x3.53	88.57x2.62	FS-KGL 10087
105	92	8.3	91.67x3.53	94.92x2.62	FS-KGL 10592
110	97	8.3	94.84x3.53	101.27x2.62	FS-KGL 11097
115	102	8.3	101.19x3.53	107.62x2.62	FS-KGL115102
120	107	8.3	104.37x3.53	107.62x2.62	FS-KGL120107
125	112	8.3	110.72x3.53	113.97x2.62	FS-KGL125112
130	117	8.3	113.89x3.53	120.32x2.62	FS-KGL130117
135	117	12.3	113.67x5.33	123.42x3.53	FS-KGL135117
140	122	12.3	120.02x5.33	126.6x3.53	FS-KGL140122
150	132	12.3	129.54x5.33	136.12x3.53	FS-KGL150132
160	142	12.3	139.07x5.33	145.64x3.53	FS-KGL160142
170	152	12.3	148.49x5.33	158.35x3.53	FS-KGL170152
180	162	12.3	158.12x5.33	164.7x3.53	FS-KGL180162
190	172	12.3	170.82x5.33	177.4x3.53	FS-KGL190172
200	182	12.3	177.17x5.33	183.75x3.53	FS-KGL200182
210	192	12.3	189.87x5.33	196.45x3.53	FS-KGL210192
220	202	12.3	196.22x5.33	202.8x3.53	FS-KGL220202
230	212	12.3	208.92x5.33	215.5x3.53	FS-KGL230212
240	222	12.3	221.62x5.33	221.85x3.53	FS-KGL240222
250	232	12.3	227.97x5.33	234.55x3.53	FS-KGL250232
280	262	12.3	253.37x5.33	266.29x3.53	FS-KGL280262
300	282	12.3	278.77x5.33	278.99x3.53	FS-KGL300282
320	302	12.3	291.47x5.33	304.39x3.53	FS-KGL320302
350	332	12.3	329.57x5.33	329.79x3.53	FS-KGL350332
400	382	12.3	380.37x5.33	380.59x3.53	FS-KGL400382
420	402	12.3	405.26x5.33	380.59x3.53	FS-KGL420402
450	432	12.3	430.66x5.33	430.66x3.53	FS-KGL450432
480	449	16.3	443.36x7	456.06x5.33	FS-KGL480449
500	469	16.3	468.76x7	456.06x5.33	FS-KGL500469
600	569	16.3	557.66x7	557.58x5.33	FS-KGL600569
700	669	16.3	658.88x7	658.88x5.33	FS-KGL700669

KGLA

Standard materials

Sealing ring: filling PTFE

O-ring: nitrile rubber or fluorine rubber

X-ring: nitrile rubber or fluorine rubber

Application scope

Suitable for situations with fast speed, high pressure and need for pressure maintenance. Used for double acting piston as piston type accumulators, positioning cylinders and support cylinders.

Features

- In situations where separation of two media is required, In situations where separation of two media is required
- Integrating low friction and high elasticity, with dual safety features
- Good dynamic and static sealing performance
- Allow for larger extrusion clearance
- Equipped with pressure holding, little leakage inside the oil cylinder
- Good sliding performance, no crawling

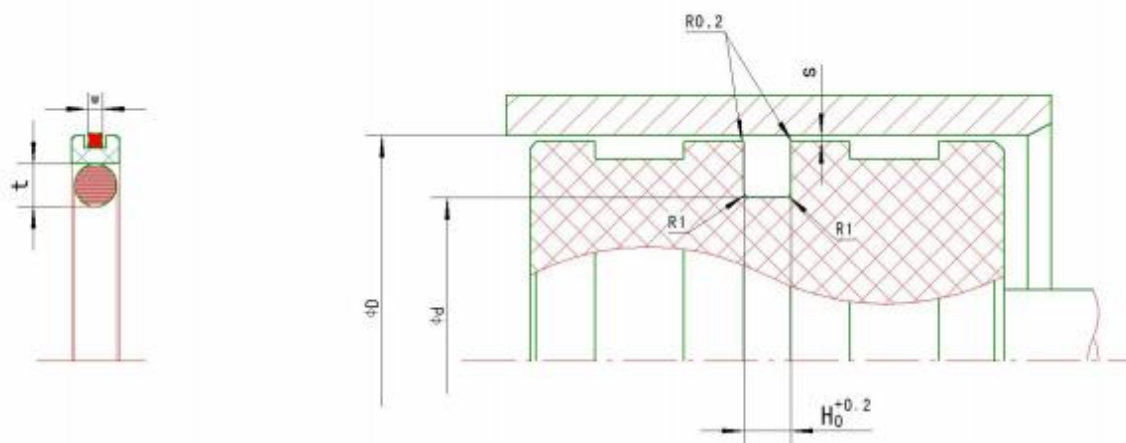
Operating conditions

Speed: $\leq 2\text{m/s}$

Pressure range: 0-40Mpa

Temperature: -30°C $+200^{\circ}\text{C}$

Section view



Groove Size

Dia. range	Dia. range	Groove Dia.	Groove width	Radial clearance S			O-ring section	X-ring section
				10Mpa	20Mpa	40Mpa		
		d	H0+0.2				t	w
15-39.9	40-79.9	D-11	4.2	0.25	0.15	0.1	3.53	1.78
40-79.9	80-132.9	D-15.5	6.3	0.3	0.2	0.15	5.33	1.78
80-132.9	133-252.9	D-21	8.1	0.3	0.2	0.15	7	2.62
133-252.9	-	D-24.5	8.1	0.3	0.2	0.15	7	2.62
253-462.9	-	D-28	9.5	0.45	0.3	0.25	8.4	3.53
463-700.0	-	D-35	11.5	0.55	0.4	0.35	10	5.33

Cylinder hole dia.	Groove dia.	Groove width	X-ring size	O-ring size	Art.No.
D	d	H			
16	5	4.2	12.42x1.78	4.34x3.53	KGLA 16
18	7	4.2	14x1.78	6.42x3.53	KGLA 18
20	9	4.2	15.6x1.78	8.42x3.53	KGLA 20
22	11	4.2	17.17x1.78	10.69x3.53	KGLA 22
25	14	4.2	20.35x1.78	13.87x3.53	KGLA 25
28	17	4.2	23.52x1.78	15.47x3.53	KGLA 28
30	19	4.2	25.12x1.78	18.66x3.53	KGLA 30
32	21	4.2	26.7x1.78	20.22x3.53	KGLA 32
35	24	4.2	29.87x1.78	23.4x3.53	KGLA 35
40	29	4.2	34.65x1.78	28.17x3.53	KGLA 40
42	31	4.2	37.82x1.78	29.75x3.53	KGLA 42
45	34	4.2	37.82x1.78	32.92x3.53	KGLA 45
48	37	4.2	41x1.78	36.09x3.53	KGLA 48
50	39	4.2	44.17x1.78	37.7x3.53	KGLA 50
50	34.5	6.3	44.17x1.78	32.69x5.33	KGLA 50-1
52	41	4.2	47.35x1.78	40.87x3.53	KGLA 52
55	44	4.2	50.52x1.78	44.04x3.53	KGLA 55
60	49	4.2	53.7x1.78	47.22x3.53	KGLA 60
63	52	4.2	56.87x1.78	50.39x3.53	KGLA 63
63	47.5	6.3	56.87x1.78	46.99x5.33	KGLA 63-1
65	54	4.2	60.05x1.78	53.57x3.53	KGLA 65
70	59	4.2	63.22x1.78	56.74x3.53	KGLA 70
70	54.5	6.3	63.22x1.78	53.34x5.33	KGLA 70-1
75	64	4.2	69.57x1.78	63.09x3.53	KGLA 75
80	64.5	6.3	72.75x1.78	62.87x5.33	KGLA 80
80	59	8.1	71.12x2.62	58x7	KGLA 80-1
85	69.5	6.3	75.92x1.78	69.22x5.33	KGLA 85
85	64	8.1	75.87x2.62	63x7	KGLA 85-1
90	74.5	6.3	82.27x1.78	72.39x5.33	KGLA 90
90	69	8.1	82.22x2.62	68x7	KGLA 90-1
95	79.5	6.3	88.62x1.78	78.74x5.33	KGLA 95
95	74	8.1	82.22x2.62	73x7	KGLA 95-1
100	84.5	6.3	88.62x1.78	81.92x5.33	KGLA 100
100	79	8.1	88.57x2.62	78x7	KGLA 100-1
105	89.5	6.3	94.97x1.78	88.27x5.33	KGLA 105
105	84	8.1	94.92x2.62	83x7	KGLA 105-1
110	94.5	6.3	101.32x1.78	91.44x5.33	KGLA 110
110	89	8.1	101.27x2.62	88x7	KGLA 110-1
115	99.5	6.3	107.67x1.78	97.79x5.33	KGLA 115
115	94	8.1	107.62x2.62	93x7	KGLA 115-1
120	104.5	6.3	114.02x1.78	100.97x5.33	KGLA 120

Cylinder hole dia.	Groove dia.	Groove width	X-ring size	O-ring size	Art.No.
D	d	H			
120	99	8.1	107.62x2.62	97x7	KGLA 120-1
125	109.5	6.3	114.02x1.78	107.32x5.33	KGLA 125
125	104	8.1	113.97x2.62	103x7	KGLA 125-1
130	114.5	6.3	120.37x1.78	113.67x5.33	KGLA 130
130	109	8.1	120.32x2.62	108x7	KGLA 130-1
135	114	8.1	126.67x2.62	113.67x7	KGLA 135
140	119	8.1	126.67x2.62	116.84x7	KGLA 140
150	129	8.1	139.37x2.62	126.37x7	KGLA 150
160	139	8.1	145.72x2.62	135.89x7	KGLA 160
170	149	8.1	158.42x2.62	145.42x7	KGLA 170
180	159	8.1	171.11x2.62	158.12x7	KGLA 180
190	169	8.1	177.47x2.62	164.47x7	KGLA 190
200	179	8.1	190.17x2.62	177.17x7	KGLA 200
210	189	8.1	196.52x2.62	183.52x7	KGLA 210
220	199	8.1	202.87x2.62	196.22x7	KGLA 220
230	209	8.1	215.57x2.62	208.92x7	KGLA 230
240	219	8.1	221.92x2.62	215.27x7	KGLA 240
250	229	8.1	234.62x2.62	227.97x7	KGLA 250
250	225.5	8.1	234.62x2.62	227.97x7	KGLA 250-1
280	252	9.5	266.29x3.53	250x8.4	KGLA 280
300	272	9.5	278.99x3.53	270x8.4	KGLA 300
310	282	9.5	291.69x3.53	280x8.4	KGLA 310
320	292	9.5	304.39x3.53	290x8.4	KGLA 320
350	322	9.5	329.79x3.53	320x8.4	KGLA 350
400	372	9.5	380.59x3.53	370x8.4	KGLA 400
420	392	9.5	380.59x3.53	390x8.4	KGLA 420
450	422	9.5	430.66x3.53	420x8.4	KGLA 450
480	445	11.5	456.06x5.33	444x10	KGLA 480
500	465	11.5	456.06x5.33	464x10	KGLA 500
600	565	11.5	557.58x5.33	564x10	KGLA 600
700	665	11.5	658.88x5.33	664x10	KGLA 700

KGLR

Standard materials

Sealing ring: polyurethane

Expansion ring: nitrile rubber

Application scope

Mainly used for standard industrial cylinders, farm equipment, light construction machinery and walking devices.

Features

- Extremely high dynamic and static sealing performance
- Suitable for unidirectional action
- Excellent wear resistance
- Low friction
- Easy to install
- Extremely high resistance to compression

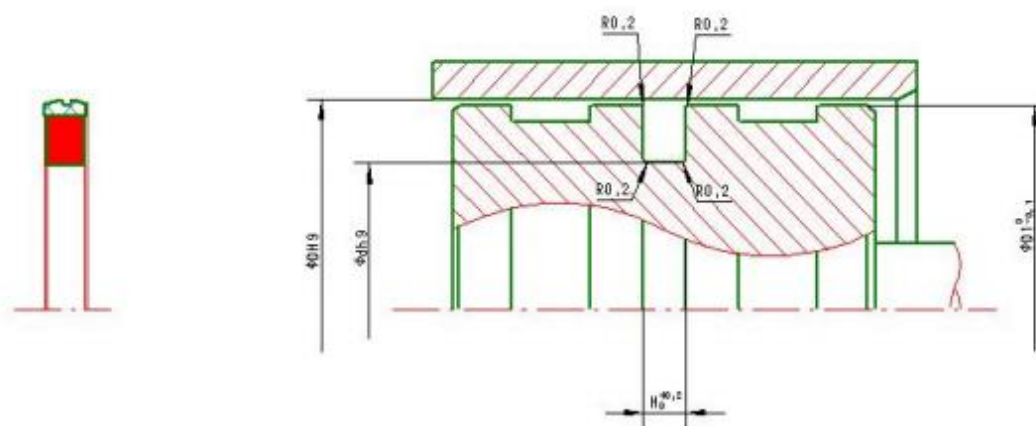
Operating conditions

Speed: $\leq 0.5\text{m/s}$

Pressure range: 0-30Mpa

Temperature: -35°C $+110^{\circ}\text{C}$

Section view



Groove Size

Gyld ring KGLR				
d	D1	D	H	Art.No.
12.5	19.7	20	3.2	FS-KGLR 20
17.5	24.7	25	3.2	FS-KGLR 25
14	24.7	25	4.2	FS-KGLR 25-1
24.5	31.7	32	3.2	FS-KGLR 32
21	31.7	32	4.2	FS-KGLR 32-1
32.5	39.7	40	3.2	FS-KGLR 40
29	39.7	40	4.2	FS-KGLR 40-1
34	44.7	45	4.2	FS-KGLR 45
32	44.6	45	6.3	FS-KGLR 45-1
39	49.7	50	4.2	FS-KGLR 50
34.5	49.6	50	6.3	FS-KGLR 50-1
39.5	54.6	55	6.3	FS-KGLR 55
49	59.7	60	4.2	FS-KGLR 60
44.5	59.6	60	6.3	FS-KGLR 60-1
52	62.7	63	4.2	FS-KGLR 63
47.5	62.6	63	6.3	FS-KGLR 63-1
50	62.6	63	6.3	FS-KGLR 63-2
52	64.6	65	6.3	FS-KGLR 65
59	69.7	70	4.2	FS-KGLR 70
54.5	69.6	70	6.3	FS-KGLR 70-1
57	69.6	70	6.3	FS-KGLR 70-2
59.5	74.6	75	6.3	FS-KGLR 75
62	74.6	75	6.3	FS-KGLR 75-1

Gyld ringKGLR				
d	D1	D	H	Art.No.
69	79.7	80	4.2	FS-KGLR 80
64.5	79.6	80	6.3	FS-KGLR 80-1
71.5	84.6	85	6.3	FS-KGLR 85
74.5	89.6	90	6.3	FS-KGLR 90
69	89.5	90	8.1	FS-KGLR 90-1
69	89.5	90	10.5	FS-KGLR 90-2
79.5	94.6	95	6.3	FS-KGLR 95
84.5	99.6	100	6.3	FS-KGLR 100
86.5	99.6	100	6.3	FS-KGLR 100-1
79	99.5	100	8.1	FS-KGLR 100-2
84.5	104.6	105	6.3	FS-KGLR 105
89.5	104.6	105	6.3	FS-KGLR 105-1
89	109.5	110	8.1	FS-KGLR 110
94	114.5	115	8.1	FS-KGLR 115
99	119.5	120	8.1	FS-KGLR 120
109.5	124.6	125	6.3	FS-KGLR 125
104	124.5	125	8.1	FS-KGLR 125-1
119	139.5	140	8.1	FS-KGLR 140
139	159.5	160	8.1	FS-KGLR 160
179	199.5	200	8.1	FS-KGLR 200

KFWH

Standard materials

Seals material: filling PTFE

Application scope

This product is used in combination with piston sealing rings and anti-wear rings to prevent damage to the sealing rings caused by mixture of external substances in the oil cylinder, and ensure the seals long service life. Due to the impurity immersion function of PTFE, it can prevent damage to the piston rod. There is a cut and an oil pressure bypass groove to prevent the accumulation of oil pressure.

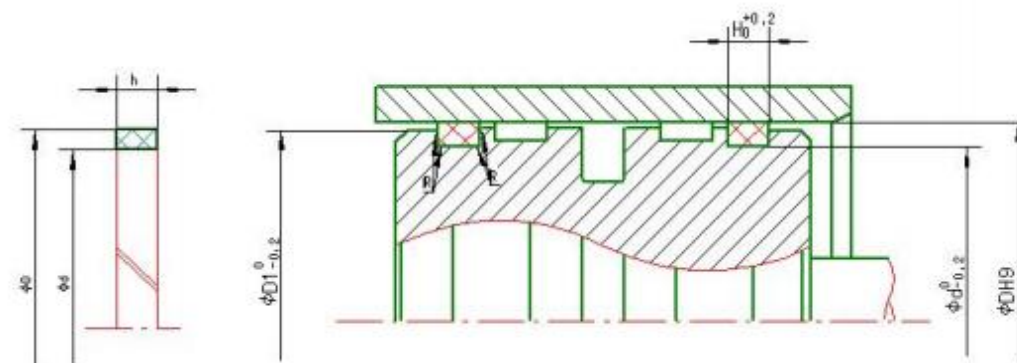
Features

- Easy to install
- High wear resistance
- Low friction, no stick-slip phenomenon

Operating conditions

Speed: $\leq 5\text{m/s}$

Temperature: $-100^{\circ}\text{C} \sim +200^{\circ}\text{C}$



Type KFWH						
Item No.	Nominal size	Chamber size				Art.No.
	h	φd	φD	φD1	H	
20	5	14	20	18	5.2	FS-KFWH 2014
25		19	25	23		FS-KFWH 2519
30		24	30	28		FS-KFWH 3024
32		26	32	30		FS-KFWH 3226
35		29	35	33		FS-KFWH 3529
40		34	40	38		FS-KFWH 4034
45		39	45	43		FS-KFWH 4539
50		44	50	48		FS-KFWH 5044
53		47	53	51		FS-KFWH 5347
55		49	55	53		FS-KFWH 5549
56		50	56	54		FS-KFWH 5650
60		54	60	58		FS-KFWH 6054
63	6	55	63	61	6.2	FS-KFWH 6355
65		57	65	63		FS-KFWH 6557
70		62	70	68		FS-KFWH 7062
71		63	71	69		FS-KFWH 7163
75		67	75	73		FS-KFWH 7567
80		72	80	78		FS-KFWH 8072
85		77	85	83		FS-KFWH 8577
90		82	90	88		FS-KFWH 9082
95		87	95	93		FS-KFWH 9587
100		92	100	98		FS-KFWH 10092
105		97	105	103		FS-KFWH 10597
110	6	102	110	108	6.2	FS-KFWH 110102
112		104	112	110		FS-KFWH 112104
115		107	115	113		FS-KFWH 115107
120		112	120	118		FS-KFWH 120112
125		117	125	123		FS-KFWH 125117
130		122	130	128		FS-KFWH 130122
135		127	135	133		FS-KFWH 135127
140		132	140	138		FS-KFWH 140132
150		142	150	148		FS-KFWH 150142
160		152	160	158		FS-KFWH 160152
170	8	162	170	168	8.2	FS-KFWH 170162
180		172	180	178		FS-KFWH 180172
190		182	190	188		FS-KFWH 190182
200		192	200	198		FS-KFWH 200192
210		202	210	208		FS-KFWH 210202

Type KFWH						
Item No.	Nominal size	Chamber size				Art.No.
	h	φd	φD	φD1	H	
220	8	212	220	218	8. 2	FS-KFWH220212
224		216	224	222		FS-KFWH224216
230		222	230	228		FS-KFWH230222
240		232	240	238		FS-KFWH240232
250		242	250	248		FS-KFWH250242
260		252	260	258		FS-KFWH260252
270		262	270	268		FS-KFWH270262
280		272	280	278		FS-KFWH280272
290		282	290	288		FS-KFWH290282
300		292	300	298		FS-KFWH300292
310		302	310	308		FS-KFWH310302
320		312	320	318		FS-KFWH320312
340		332	340	338		FS-KFWH340332
350		342	350	348		FS-KFWH350342
360		352	360	358		FS-KFWH360352

KUI

Standard materials

Sealing ring: polyurethane

Application scope

Sealing of pistons and plungers in heavy-duty walking machinery or industrial hydraulic systems

Features

- Excellent wear resistance
- Not sensitive to impact loads and pressure peaks
- High anti extrusion ability
- Low permanent compression deformation
- Adapted to harsh working conditions
- Easy to install

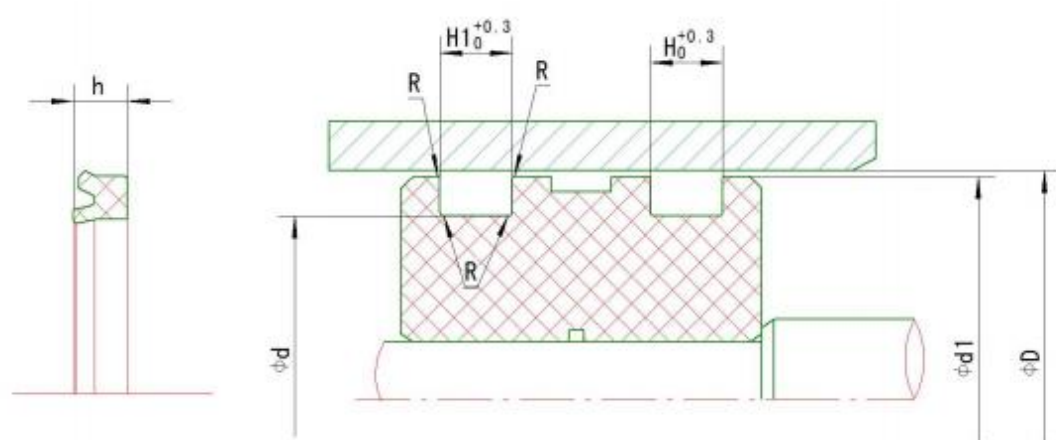
Operating conditions

Speed: $\leq 0.5\text{m/s}$

Pressure range: 0-40Mpa

Temperature: -35°C $+110^{\circ}\text{C}$

Section view



Groove Size

Type KUI						
φd	φd1	φD	h	H1	H	Art.No.
8	17	18	7.5	8.5	10.5	FS-KHI 1808
10	19	20	6	7	9	FS-KHI 2010
10	19	20	7.5	8.5	10.5	FS-KHI 2010-1
10	19	20	8	9	11	FS-KHI 2010-2
12	19	20	5	5.7	7.7	FS-KHI 2012
14	21	22	5	5.7	7.7	FS-KHI 2214
14	23	24	7.5	8.5	10.5	FS-KHI 2414
15	24	25	6	7	9	FS-KHI 2515
15	24	25	8	9	11	FS-KHI 2525-1
17	24	25	5	5.7	7.7	FS-KHI 2517
16	25	26	7.5	8.5	10.5	FS-KHI 2616
18	25	26	5	5.7	7.7	FS-KHI 2618
15	27	28	10	11	13	FS-KHI 2815
20	27	28	5	5.7	7.7	FS-KHI 2820
20	29	30	5	5.7	7.7	FS-KHI 3020
20	29	30	6	7	9	FS-KHI 3020-1
20	29	30	8	9	11	FS-KHI 3020-2
18	30	31	10	11	13	FS-KHI 3118
20	32	33	10	11	13	FS-KHI 3320
25	32	33	5	5.7	7.7	FS-KHI 3325
22	34	35	10	11	13	FS-KHI 3522
25	34	35	6	7	9	FS-KHI 3525-1
25	34	35	8	9	11	FS-KHI 3525-2
25	37	38	10	11	13	FS-KHI 3825

Type KUI						
ϕd	$\phi d1$	ϕD	h	H1	H	Art.No.
25	39	40	9	10	12	FS-KHI 4025
25	39	40	10	11	13	FS-KHI 4025-1
27	39	40	8	9	12	FS-KHI 4027
27	39	40	10	11	14	FS-KHI 4027-1
30	39	40	8	9	12	FS-KHI 4030
28	40	41	10	11	14	FS-KHI 4128
30	42	43	10	11	14	FS-KHI 4330
30	44	45	9	10	13	FS-KHI 4530
30	44	45	10	11	14	FS-KHI 4530-1
32	44	45	8	9	12	FS-KHI 4532
32	44	45	10	11	14	FS-KHI 4532-1
35	44	45	8	9	12	FS-KHI 4535
34	49	50	10	13	14	FS-KHI 5034
34	49	50	12	10	16	FS-KHI 5034-1
35	49	50	9	11	13	FS-KHI 5035
35	49	50	10	13	14	FS-KHI 5035-1
35	49	50	12	9	16	FS-KHI 5035-2
40	49	50	8	13	12	FS-KHI 5040
40	54	55	9	10	134	FS-KHI 5540
40	54	55	10	11	14	FS-KHI 5540-1
45	54	55	8	9	12	FS-KHI 5545
40	55	56	10	11	14	FS-KHI 5640
40	55	56	12	13	16	FS-KHI 5640-1
41	55	56	9	10	13	FS-KHI 5641
41	55	56	10	11	14	FS-KHI 5641-1
46	55	56	8	9	12	FS-KHI 5646
45	59	60	9	10	13	FS-KHI 6045
45	59	60	10	11	14	FS-KHI 6045-1
50	59	60	8	9	12	FS-KHI 6050
45	60	61	12	13	16	FS-KHI 6145
47	62	63	10	11	14	FS-KHI 6347
47	62	63	12	13	16	FS-KHI 6347-1
48	62	63	9	10	13	FS-KHI 6348
48	62	63	10	11	14	FS-KHI 6348-1
53	62	63	8	9	12	FS-KHI 6353
50	64	65	9	10	13	FS-KHI 6550
50	64	65	10	11	14	FS-KHI 6550-1
55	64	65	8	9	12	FS-KHI 6555
50	65	66	12	13	16	FS-KHI 6650
53	68	69	12	13	16	FS-KHI 6953
50	69	70	12	13	16	FS-KHI 7050

Type KUI						
φd	φd1	φD	h	H1	H	Art.No.
55	69	70	9	10	13	FS-KHI 7055
55	69	70	10	11	14	FS-KHI 7055-1
60	69	70	8	9	12	FS-KHI 7060
51	70	71	12	13	16	FS-KHI 7151
55	70	71	10	11	14	FS-KHI 7155
55	70	71	12	13	16	FS-KHI 7155-1
56	70	71	9	10	13	FS-KHI 7156
56	70	71	10	11	14	FS-KHI 7156-1
61	70	71	8	9	12	FS-KHI 7161
55	74	75	12	13	16	FS-KHI 7555
60	74	75	9	10	13	FS-KHI 7560
60	74	75	10	11	14	FS-KHI 7560-1
65	74	75	8	9	12	FS-KHI 7565
60	75	76	12	13	16	FS-KHI 7660
60	79	80	12	13	16	FS-KHI 8060
64	79	80	10	11	14	FS-KHI 8064
64	79	80	12	13	16	FS-KHI 8064-1
65	79	80	9	10	13	FS-KHI 8065
65	79	80	10	11	14	FS-KHI 8065-1
70	79	80	8	9	12	FS-KHI 8070
65	84	85	12	13	16	FS-KHI 8565
70	84	85	9	10	13	FS-KHI 8570
70	84	85	10	11	14	FS-KHI 8570-1
75	84	85	8	9	12	FS-KHI 8575
70	89	90	12	13	16	FS-KHI 9070
70	89	90	15	16	19	FS-KHI 9070-1
75	89	90	9	10	13	FS-KHI 9075
75	89	90	10	11	14	FS-KHI 9075-1
80	89	90	8	9	12	FS-KHI 9080
75	94	95	12	13	16	FS-KHI 9575
75	94	95	15	16	19	FS-KHI 9575-1
80	94	95	9	10	13	FS-KHI 9580
80	94	95	10	11	14	FS-KHI 9580-1
80	98	100	12	13	16	FS-KHI 10080
80	98	100	15	16	19	FS-KHI 10080-1
85	98	100	10	11	14	FS-KHI 10085
85	103	105	15	16	19	FS-KHI 10585
90	108	110	12	13	16	FS-KHI 11090
90	108	110	15	16	19	FS-KHI 11090-1
95	108	110	10	11	14	FS-KHI 11095
92	110	112	12	13	16	FS-KHI 11292

Type KUI						
ϕd	$\phi d1$	ϕD	h	H1	H	Art.No.
92	110	112	15	16	19	FS-KHI 11292-1
97	110	112	9	10	13	FS-KHI 11297
97	110	112	10	11	14	FS-KHI 11297-1
95	113	115	15	16	19	FS-KHI 11595
100	118	120	12	13	16	FS-KHI 120100
100	118	120	15	16	19	FS-KHI 120100-1
105	118	120	10	11	14	FS-KHI 120105
105	123	125	12	13	16	FS-KHI 125105
105	123	125	15	16	19	FS-KHI 125105-1
105	123	125	16	17	20	FS-KHI 125105-2
110	123	125	9	10	13	FS-KHI 125110
110	123	125	10	11	14	FS-KHI 125110-1
110	128	130	12	13	16	FS-KHI 130110
110	128	130	15	16	19	FS-KHI 130110-1
110	128	130	16	17	20	FS-KHI 130110-2
115	128	130	10	11	14	FS-KHI 130115
112	130	132	15	16	19	FS-KHI 132112
120	138	140	12	13	16	FS-KHI 140120
120	138	140	15	16	19	FS-KHI 140120-1
120	138	140	16	17	20	FS-KHI 140120-2
125	138	140	10	11	14	FS-KHI 140125
125	148	150	19	20	23	FS-KHI 150125
125	148	150	20	21	24	FS-KHI 150125-1
130	148	150	12	13	16	FS-KHI 150130
130	148	150	16	17	20	FS-KHI 150130-1
135	148	150	10	11	14	FS-KHI 150135
132	155	157	20	21	24	FS-KHI 157132
135	158	160	19	20	23	FS-KHI 160135
135	158	160	20	21	24	FS-KHI 160135-1
140	158	160	12	13	16	FS-KHI 160140
140	158	160	16	17	20	FS-KHI 160140-1
145	158	160	10	11	14	FS-KHI 160145
140	163	165	19	20	23	FS-KHI 165140
140	163	165	20	21	24	FS-KHI 165140-1
145	168	170	19	20	23	FS-KHI 170145
145	168	170	20	21	24	FS-KHI 170145-1
150	168	170	12	13	16	FS-KHI 170150
150	168	170	16	17	20	FS-KHI 170150-1
155	168	170	10	11	15	FS-KHI 170155
155	178	180	16	17	21	FS-KHI 180155
155	178	180	19	20	24	FS-KHI 180155-1

Type KUI						
φd	φd1	φD	h	H1	H	Art.No.
155	178	180	20	21	25	FS-KHI 180155-2
160	178	180	12	13	17	FS-KHI 180160
160	178	180	16	17	21	FS-KHI 180160-1
165	178	180	10	11	15	FS-KHI 180165
160	183	185	19	20	24	FS-KHI 185160
160	183	185	20	21	25	FS-KHI 185160-1
165	188	190	16	17	21	FS-KHI 190165
165	188	190	20	21	25	FS-KHI 190165-1
170	188	190	12	13	17	FS-KHI 190170
170	188	190	16	17	21	FS-KHI 190170-1
175	188	190	10	11	15	FS-KHI 190175
175	198	200	16	17	21	FS-KHI 200175
175	198	200	19	20	24	FS-KHI 200175-1
175	198	200	20	21	25	FS-KHI 200175-2
180	198	200	16	17	21	FS-KHI 200180
180	203	205	19	20	24	FS-KHI 205180
180	203	205	20	21	25	FS-KHI 205180-1
185	208	210	16	17	21	FS-KHI 210185
185	208	210	20	21	25	FS-KHI 210185-1
190	208	210	16	17	21	FS-KHI 210190
190	213	215	16	17	21	FS-KHI 215190
195	218	220	16	17	21	FS-KHI 220195
195	218	220	20	21	25	FS-KHI 220195-1
200	218	220	16	17	21	FS-KHI 220200
199	222	224	16	17	21	FS-KHI 224199
199	222	224	20	21	25	FS-KHI 224199-1
204	222	224	16	17	21	FS-KHI 224204
200	223	225	16	17	21	FS-KHI 225200
200	223	225	19	20	24	FS-KHI 225200-1
200	223	225	20	21	25	FS-KHI 225200-2
205	223	225	16	17	21	FS-KHI 225205
205	228	230	16	17	21	FS-KHI 230205
205	228	230	19	20	24	FS-KHI 230205-1
205	228	230	20	21	25	FS-KHI 230205-2
210	228	230	16	17	21	FS-KHI 230210
215	238	240	16	17	21	FS-KHI 240215
215	238	240	19	20	24	FS-KHI 240215-1
215	238	240	20	21	25	FS-KHI 240215-2
220	238	240	16	17	21	FS-KHI 240220
225	248	250	16	17	21	FS-KHI 250225
225	248	250	19	20	24	FS-KHI 250225-1

Type KUI						
ϕd	$\phi d1$	ϕD	h	H1	H	Art.No.
225	248	250	20	21	25	FS-KHI 250225-2
230	248	250	16	17	21	FS-KHI 250230
235	258	260	16	17	21	FS-KHI 260235
235	258	260	19	20	24	FS-KHI 260235-1
240	258	260	16	17	21	FS-KHI 260240
245	268	270	16	17	21	FS-KHI 270245
245	268	270	19	20	24	FS-KHI 270245-1
250	268	270	16	17	21	FS-KHI 270250
250	273	275	19	20	24	FS-KHI 275250
250	273	275	20	21	25	FS-KHI 275250-1
250	278	280	19	20	24	FS-KHI 280250
255	278	280	19	20	24	FS-KHI 280255
260	288	290	19	20	24	FS-KHI 290260
265	288	290	19	20	24	FS-KHI 290265
265	295	297	24	25	29	FS-KHI 297265
265	295	297	25	26	30	FS-KHI 297265-1
270	298	300	19	20	24	FS-KHI 300270
270	298	300	24	25	29	FS-KHI 300270-1
270	298	300	25	26	30	FS-KHI 300270-2
275	298	300	19	20	24	FS-KHI 300275
280	310	312	24	25	29	FS-KHI 312280
300	330	332	24	25	29	FS-KHI 332300

KOK

Standard materials

Sealing ring: filling modified thermoplastic material

Expansion ring: nitrile rubber

Application scope

Mainly used in heavy-duty hydraulic equipment, especially suitable for double acting pistons

Features

- Small in shape
- Resistance to impact load
- Low friction coefficient
- Easy to install
- Good wear resistance
- Strong resistance to compression under high pressure and large clearance

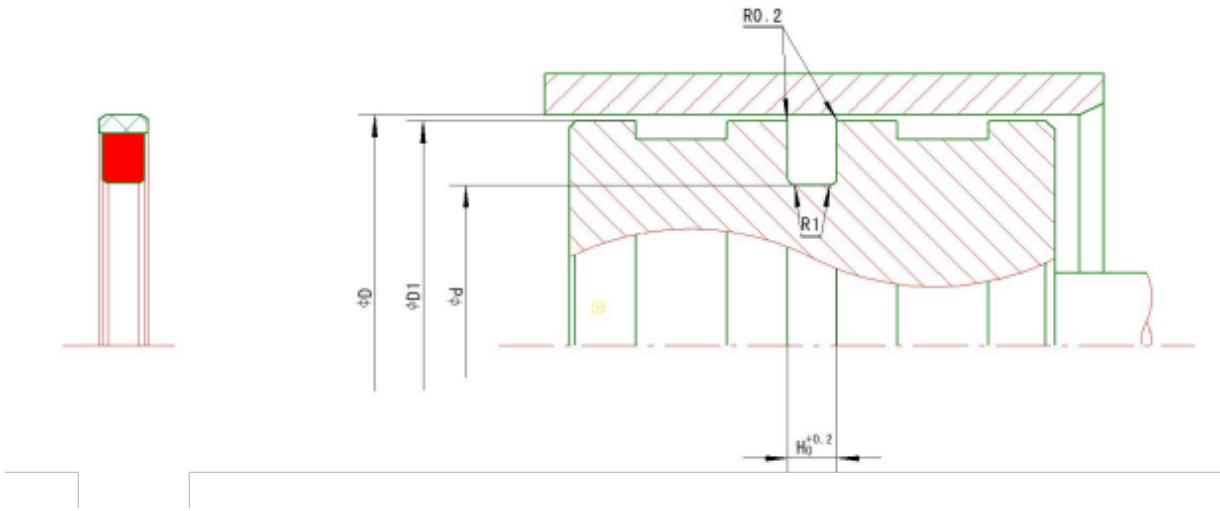
Operating conditions

Speed: $\leq 1\text{m/s}$

Pressure range: 0-50Mpa

Temperature: -30°C $+110^{\circ}\text{C}$

Section view



Groove Size

Type KOK piston sealing				
d	D	D1	H	Art.No.
16	25	24.3	4.2	FS-KOK 25
21	32	31.3	4.2	FS-KOK 32
29	40	39.3	4.2	FS-KOK 40
26.3	40	39.3	5.8	FS-KOK 40-1
34.5	50	49	6.3	FS-KOK 50
39	50	49.3	4.2	FS-KOK 50-1
41.7	60	59.2	7	FS-KOK 60
49	60	59.3	4.2	FS-KOK 60-1
44.7	63	62.2	7	FS-KOK 63
47.5	63	62	6.3	FS-KOK 63-1
51.7	70	69.2	7	FS-KOK 70
59	70	69.3	4.2	FS-KOK 70-1
54	75	74.2	8	FS-KOK 75
59	80	79	8	FS-KOK 80
64.5	80	79	6.3	FS-KOK 80-1
64	85	84	8	FS-KOK 85
69	90	89	8	FS-KOK 90
74.5	90	89	6.3	FS-KOK 90-1
74	95	94	8	FS-KOK 95
79	100	99	8	FS-KOK 100
84.5	100	99	6.3	FS-KOK 100-1
84	105	103.8	8	FS-KOK 105
89	110	108.8	8	FS-KOK 110
94.5	110	109	6.3	FS-KOK 110-1

Type KOK piston sealing				
d	D	D1	H	Art.No.
94	115	113.8	8	FS-KOK 115
99	120	118.3	8	FS-KOK 120
104	125	123.8	8	FS-KOK 125
109.5	125	124	6.3	FS-KOK 125-1
109	130	128.8	8	FS-KOK 130
119.5	135	134	6.3	FS-KOK 135
114	135	133.8	8	FS-KOK 135-1
119	140	138.8	8	FS-KOK 140
124	145	143.8	8	FS-KOK 145
129	150	148.8	8	FS-KOK 150
139	160	158.8	8	FS-KOK 160
144	165	163.8	8	FS-KOK 165
149	170	168.8	8	FS-KOK 170
154	175	173.8	8	FS-KOK 175
159	180	178.8	8	FS-KOK 180
169	190	188.8	8	FS-KOK 190
179	200	198.8	8	FS-KOK 200
189	210	208.4	8	FS-KOK 210
199	220	218.4	8	FS-KOK 220
209	230	228.4	8	FS-KOK 230
225	240	238.4	8	FS-KOK 240
229	250	248.4	8	FS-KOK 250
239	260	258.4	8	FS-KOK 260
249	270	268.4	8	FS-KOK 270
255.5	280	278.4	8	FS-KOK 280
271	290	287.4	9.5	FS-KOK 290
272	300	297.8	9.5	FS-KOK 300
292	320	317.8	9.5	FS-KOK 320
302	330	327.8	9.5	FS-KOK 330
322	350	347.8	9.5	FS-KOK 350
342	370	367.8	9.5	FS-KOK 370
392	420	417.8	9.5	FS-KOK 420
422	450	447.8	9.5	FS-KOK 450
452	480	477.8	9.5	FS-KOK 480

KSZH

Standard materials

Sealing ring: filling PTFE

Elastomer: nitrile rubber

Retaining ring: nylon PA or polyoxymethylene POM

Application scope

Used for hydraulic reciprocating motion systems. The bi-directional piston seal is excellent in high-pressure and heavy-duty applications. Especially suitable for long stroke and wide ranges of fluid and high-temperature environments. Suitable for larger extrusion clearance. Mainly used for heavy-duty or engineering machinery oil cylinder piston sealing, it has good leakage control, extrusion resistance and wear resistance.

Features

- Good dynamic and static sealing effect
- Low friction coefficient and low modulus loss
- Simple groove structure
- No crawling during startup, stable operation
- Allow for larger extrusion clearance
- Safe to use in contaminated media
- Long service life

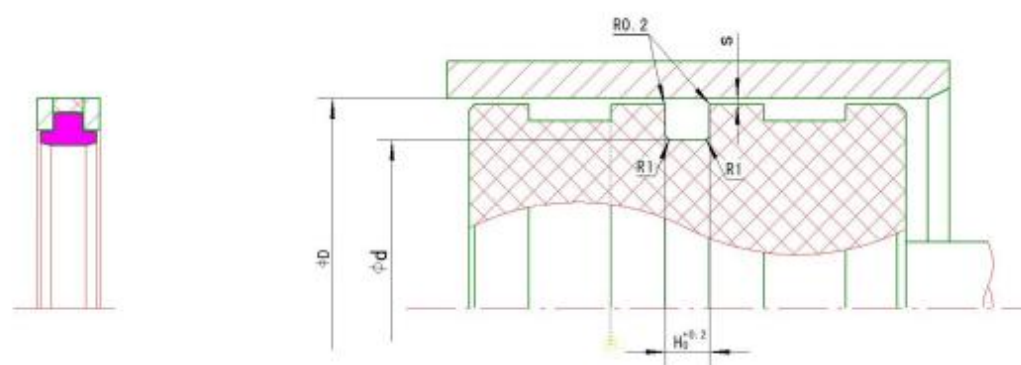
Operating conditions

Speed: $\leq 1.2\text{m/s}$

Pressure range: 0-50Mpa

Temperature: -30°C $+100^{\circ}\text{C}$

Section view



Groove Size

Type KSZH				
size	Chamber size			Art.No.
	ϕd	ϕD	H	
50	36	50	9	FS-KSZH 50
60	46	60		FS-KSZH 60
63	48	63	11	FS-KSZH 63
65	50	65		FS-KSZH 65
70	55	70		FS-KSZH 70
75	60	75		FS-KSZH 75
80	65	80		FS-KSZH 80
85	70	85		FS-KSZH 85
90	75	90		FS-KSZH 90
95	80	95		FS-KSZH 95
100	85	100	12.5	FS-KSZH 100
105	90	105		FS-KSZH 105
110	95	110		FS-KSZH 110
115	100	115		FS-KSZH 115
120	105	120		FS-KSZH 120
125	120	125	16	FS-KSZH 125
130	107	130		FS-KSZH 130
135	112	135		FS-KSZH 135
140	117	140		FS-KSZH 140
150	127	150		FS-KSZH 150
160	137	160		FS-KSZH 160
170	147	170		FS-KSZH 170
180	157	180		FS-KSZH 180
185	162	185		FS-KSZH 185
190	167	190		FS-KSZH 190



Type KSZH				
size	Chamber size			Art.No.
	φd	φD	H	
200	177	200		FS-KSZH 200
210	187	210		FS-KSZH 210
220	197	220		FS-KSZH 220
225	202	225		FS-KSZH 225
230	207	230		FS-KSZH 230
240	217	240		FS-KSZH 240
250	222	250	17.5	FS-KSZH 250
260	232	260		FS-KSZH 260
270	242	270		FS-KSZH 270
280	252	280		FS-KSZH 280
300	272	300		FS-KSZH 300
320	292	320		FS-KSZH 320

KGLQ

Standard materials

Sealing ring: filling PTFE

O-ring: nitrile rubber or fluorine rubber

Application scope

The hydraulic system, reciprocating motion and heavy-duty bidirectional piston sealing are excellent in high-pressure, low-pressure, and high-frequency working conditions. Suitable used for long and short strokes, larger range of fluid and high-temperature environments, and larger piston clearances.

Features

- Good dynamic and static sealing performance
- Allow for larger extrusion clearance
- Due to the large extrusion clearance, it can also be safely used in contaminated media
- Low friction, no crawling phenomenon
- Strong adaptability to working conditions

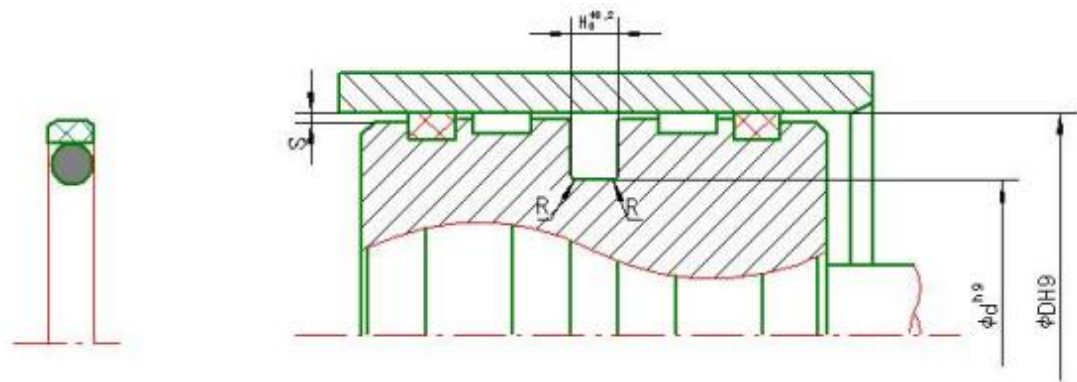
Operating conditions

Speed: $\leq 5\text{m/s}$

Pressure range: 0-60Mpa

Temperature: -35°C $+250^{\circ}\text{C}$

Section view



Groove Size

Section	Oring section	Suggested dia.range of standard rod d(mm)		Groove width	Max clearance 0-200bar	Max clearance 200-400bar	Max radius
		≥	<		S	S	
A	1.78	8	15	2.2	0.6-0.4	0.4-0.2	0.5
B	2.62	15	40	3.2	0.8-0.5	0.5-0.3	0.5
C	3.53	40	80	4.2	0.8-0.5	0.5-0.3	0.5
D	5.33	80	133	6.3	1.0-0.6	0.6-0.4	0.9
E	6.99	133	330	8.1	1.0-0.6	0.6-0.4	0.9
F	6.99	330	670	8.1	1.2-0.7	0.7-0.5	0.9
G	8.4	670	1000	9.5	1.4-0.8	0.8-0.6	0.9
H	12	1000		13.8	1.4-0.8	0.8-0.6	0.9

D	d	H	Art.No.
8	3.1	2.2	FS-KGLQ 08
10	5.1	2.2	FS-KGLQ 10
12	7.1	2.2	FS-KGLQ 12
15	7.5	3.2	FS-KGLQ 15
16	8.5	3.2	FS-KGLQ 16
18	10.5	3.2	FS-KGLQ 18
20	12.5	3.2	FS-KGLQ 20
22	14.5	3.2	FS-KGLQ 22
25	17.5	3.2	FS-KGLQ 25
28	20.5	3.2	FS-KGLQ 28
30	22.5	3.2	FS-KGLQ 30
32	24.5	3.2	FS-KGLQ 32
35	27.5	3.2	FS-KGLQ 35

D	d	H	Art. No.
39	31.5	3.2	FS-KGLQ 39
40	29	4.2	FS-KGLQ 40
42	31	4.2	FS-KGLQ 42
45	34	4.2	FS-KGLQ 45
48	37	4.2	FS-KGLQ 48
50	39	4.2	FS-KGLQ 50
52	41	4.2	FS-KGLQ 52
55	44	4.2	FS-KGLQ 55
60	49	4.2	FS-KGLQ 60
63	52	4.2	FS-KGLQ 63
65	54	4.2	FS-KGLQ 65
70	59	4.2	FS-KGLQ 70
75	64	4.2	FS-KGLQ 75

D	d	H	Art. No.
80	64.5	6.3	FS-KGLQ 80
85	69.5	6.3	FS-KGLQ 85
90	74.5	6.3	FS-KGLQ 90
95	79.5	6.3	FS-KGLQ 95
100	84.5	6.3	FS-KGLQ 100
105	89.5	6.3	FS-KGLQ 105
110	94.5	6.3	FS-KGLQ 110
115	99.5	6.3	FS-KGLQ 115
120	104.5	6.3	FS-KGLQ 120
125	109.5	6.3	FS-KGLQ 125
130	114.5	6.3	FS-KGLQ 130
135	114	8.1	FS-KGLQ 135
140	119	8.1	FS-KGLQ 140
145	124	8.1	FS-KGLQ 145
150	129	8.1	FS-KGLQ 150
155	134	8.1	FS-KGLQ 155
160	139	8.1	FS-KGLQ 160
165	144	8.1	FS-KGLQ 165
170	149	8.1	FS-KGLQ 170
175	154	8.1	FS-KGLQ 175
180	159	8.1	FS-KGLQ 180
185	164	8.1	FS-KGLQ 185
190	169	8.1	FS-KGLQ 190
195	174	8.1	FS-KGLQ 195
200	179	8.1	FS-KGLQ 200
205	184	8.1	FS-KGLQ 205
210	189	8.1	FS-KGLQ 210
215	194	8.1	FS-KGLQ 215
220	199	8.1	FS-KGLQ 220
225	204	8.1	FS-KGLQ 225
230	209	8.1	FS-KGLQ 230
240	219	8.1	FS-KGLQ 240
250	229	8.1	FS-KGLQ 250
260	239	8.1	FS-KGLQ 260
270	249	8.1	FS-KGLQ 270
280	259	8.1	FS-KGLQ 280

D	d	H	Art.No.
290	269	8.1	FS-KGLQ 290
300	279	8.1	FS-KGLQ 300
310	289	8.1	FS-KGLQ 310
320	299	8.1	FS-KGLQ 320
330	305.5	8.1	FS-KGLQ 330
340	315.5	8.1	FS-KGLQ 340
350	325.5	8.1	FS-KGLQ 350
360	335.5	8.1	FS-KGLQ 360
370	345.5	8.1	FS-KGLQ 370
380	355.5	8.1	FS-KGLQ 380
390	365.5	8.1	FS-KGLQ 390
400	375.5	8.1	FS-KGLQ 400
410	385.5	8.1	FS-KGLQ 410
420	395.5	8.1	FS-KGLQ 420
430	405.5	8.1	FS-KGLQ 430
440	415.5	8.1	FS-KGLQ 440
450	425.5	8.1	FS-KGLQ 450
460	435.5	8.1	FS-KGLQ 460
470	445.5	8.1	FS-KGLQ 470
480	455.5	8.1	FS-KGLQ 480
490	465.5	8.1	FS-KGLQ 490
500	475.5	8.1	FS-KGLQ 500
520	495.5	8.1	FS-KGLQ 520
540	515.5	8.1	FS-KGLQ 540
600	575.5	8.1	FS-KGLQ 600
700	672	9.5	FS-KGLQ 700
740	712	9.5	FS-KGLQ 740
800	772	9.5	FS-KGLQ 800
900	872	9.5	FS-KGLQ 900
1000	972	9.5	FS-KGLQ 1000
1000	962	13.8	FS-KGLQ 1000-1
1050	1022	9.5	FS-KGLQ 1050
1150	1122	9.5	FS-KGLQ 1150
1250	1212	13.8	FS-KGLQ 1250
1400	1362	13.8	FS-KGLQ 1400
1500	1462	13.8	FS-KGLQ 1500

KJS

Standard materials

Seals material: filling PTFE

Elastomer: Polyurethane or polyurethane or nitrile rubber

Application scope

Mainly used for sealing hydraulic cylinder piston, usually used in conjunction with guide sleeves.

Features

- High pressure stability under pressure and harsh conditions
- High wear resistance
- Low friction, no stick-slip phenomenon

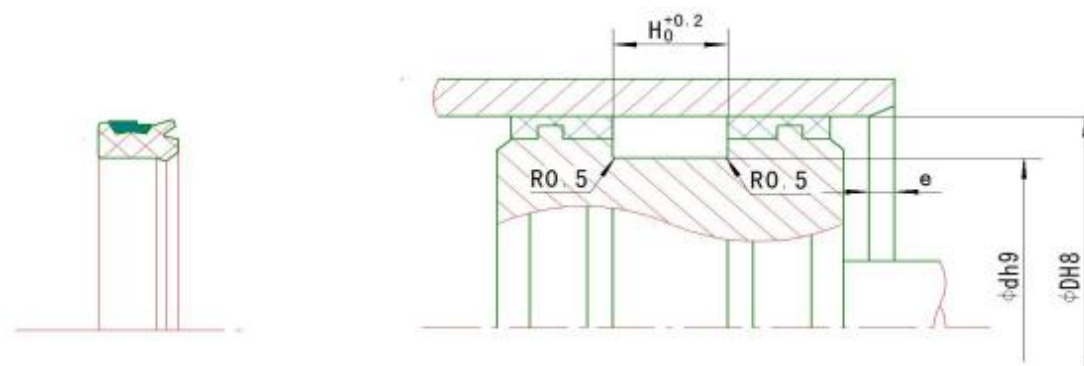
Operating conditions

Speed: $\leq 1\text{m/s}$

Pressure range: 0-45Mpa

Temperature: -30°C $+100^{\circ}\text{C}$

Section view



Groove Size

KJS					
D h8	d h9	H	L+0.2	e	Art.No.
40	32	7	7.5	6	FS-KJS 4032
43	35	7	7.5	6	FS-KJS 4335
44	36	7	7.5	6	FS-KJS 4436
45	37	7	7.5	6	FS-KJS 4537
48	40	7	7.5	6	FS-KJS 4840
50	42	7	7.5	6	FS-KJS 5042
55	45	7	7.5	6	FS-KJS 5545
60	45	12	13	6	FS-KJS 6045
63	53	8	8.5	6	FS-KJS 6353
63	48	12	13	6	FS-KJS 6348
65	50	8	8.5	6	FS-KJS 6550
65	50	12	13	6	FS-KJS 6550-1
70	55	12	13	6	FS-KJS 7055
75	60	12	13	6	FS-KJS 7560
78	63	12	13	6	FS-KJS 7863
80	65	12	13	6	FS-KJS 8065
85	70	12	13	6	FS-KJS 8570
87	72	12	13	6	FS-KJS 8772
90	75	12	13	7	FS-KJS 9075
95	80	12	13	7	FS-KJS 9580
100	85	12	13	7	FS-KJS 10085
105	90	12	13	7	FS-KJS 10590
110	95	12	13	7	FS-KJS 11095
115	100	12	13	7	FS-KJS 115100
120	105	12	13	7	FS-KJS 120105
125	110	12	13	7	FS-KJS 125110
130	115	12	13	7	FS-KJS 130115
140	120	12	13	7	FS-KJS 140120
145	125	12	13	10	FS-KJS 145125
150	130	12	13	10	FS-KJS 150130
160	140	12	17	10	FS-KJS 160140
160	140	16	17	10	FS-KJS 160140-1
170	150	16	17	10	FS-KJS 170150
180	160	16	17	10	FS-KJS 180160
185	165	16	17	10	FS-KJS 185165
190	170	16	17	10	FS-KJS 190170
200	180	16	17	10	FS-KJS 200180
210	190	16	17	10	FS-KJS 210190
220	200	16	17	10	FS-KJS 220200

KJS					
D h8	d h9	H	L+0.2	e	Art.No.
240	220	16	17	10	FS-KJS 240220
245	225	16	17	10	FS-KJS 245225
250	230	16	17	10	FS-KJS 250230
260	240	16	17	10	FS-KJS 260240
270	250	16	17	10	FS-KJS 270250
280	260	16	17	10	FS-KJS 280260
300	280	16	17	10	FS-KJS 300280
310	290	16	17	10	FS-KJS 310290
320	300	16	17	10	FS-KJS 320300
350	320	16	21	15	FS-KJS 350320
370	345	16	17	15	FS-KJS 370345
380	350	20	21	15	FS-KJS 380350
390	360	16	21	15	FS-KJS 390360
410	380	20	21	15	FS-KJS 410380
430	400	20	21	15	FS-KJS 430400
450	420	20	21	15	FS-KJS 450420
455	425	20	21	15	FS-KJS 455425
480	450	20	21	15	FS-KJS 480450
500	475	16	17	15	FS-KJS 500475
510	480	20	21	15	FS-KJS 510480
540	510	20	21	15	FS-KJS 540510
590	560	20	21	15	FS-KJS 590560
600	570	20	21	15	FS-KJS 600570
640	610	20	21	15	FS-KJS 64010
670	640	20	21	15	FS-KJS 670640

KJSA

Standard materials

Seals material: filling PTFE

Elastomer: Polyurethane or polyurethane or nitrile rubber

Application scope

Mainly used for series sealing in various liquid applications, it belongs to internal sealing. Mainly used for piston and plunger sealing. Can be used in mineral oil, modified mineral oil, fire retardant hydraulic oil and compressed air.

Features

- Easy to install
- High wear resistance
- Low friction, no stick-slip phenomenon

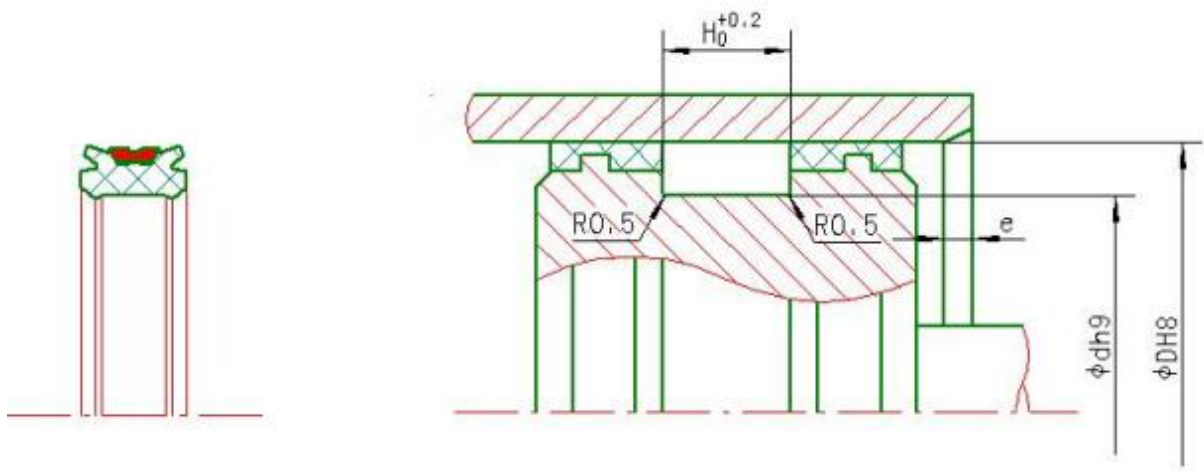
Operating conditions

Speed: $\leq 1\text{m/s}$

Pressure range: 0-25Mpa

Temperature: -30°C $+100^{\circ}\text{C}$

Section view



Groove Size

Description	Type	D H7	d h9	L+0.2	H
Piston seal assembly	KJSA	40-120	D-10	16	15
		121-300	D-12	16	15
		301-380	D-14	16	15
		>3680	D-16	16	15

KJSA					
Specification					Art.No.
D H8	d h9	H	L+0.2	e	
40	30	15	16	7	FS-KJSA 4030
45	35	15	16	7	FS-KJSA 4535
50	40	15	16	7	FS-KJSA 5040
56	46	15	16	7	FS-KJSA 5646
63	53	15	16	7	FS-KJSA 6353
65	55	15	16	7	FS-KJSA 6555
70	60	15	16	7	FS-KJSA 7060
75	65	15	16	7	FS-KJSA 7565
80	70	15	16	7	FS-KJSA 8070
85	75	15	16	7	FS-KJSA 8575
90	80	15	16	7	FS-KJSA 9080
95	85	15	16	7	FS-KJSA 9585
100	90	15	16	7	FS-KJSA 10090
105	95	15	16	7	FS-KJSA 10595
115	105	15	16	7	FS-KJSA 115105
120	110	15	16	7	FS-KJSA 120110
125	113	15	16	10	FS-KJSA 125113

KJSA					
Specification					Art.No.
D H8	d h9	H	L+0.2	e	
130	118	15	16	10	FS-KJSA 130118
135	123	15	16	10	FS-KJSA 135123
140	128	15	16	10	FS-KJSA 140128
145	133	15	16	10	FS-KJSA 145133
150	138	15	16	10	FS-KJSA 150138
155	143	15	16	10	FS-KJSA 155143
160	148	15	16	10	FS-KJSA 160148
170	158	15	16	10	FS-KJSA 170158
180	168	15	16	10	FS-KJSA 180168
190	178	15	16	10	FS-KJSA 190178
200	188	15	16	10	FS-KJSA 200188
210	198	15	16	10	FS-KJSA 210198
220	208	15	16	10	FS-KJSA 220208
225	213	15	16	10	FS-KJSA 225213
235	223	15	16	10	FS-KJSA 235223
240	228	15	16	10	FS-KJSA 240228
250	238	15	16	10	FS-KJSA 250238
265	253	15	16	10	FS-KJSA 265253
275	263	15	16	10	FS-KJSA 275263
280	268	15	16	10	FS-KJSA 280268
290	278	15	16	10	FS-KJSA 290278
300	288	15	16	15	FS-KJSA 300288
310	296	15	16	15	FS-KJSA 310296
320	306	15	16	15	FS-KJSA 320306
340	326	15	16	15	FS-KJSA 340326
350	336	15	16	15	FS-KJSA 350336
360	346	15	16	15	FS-KJSA 360346
380	366	15	16	15	FS-KJSA 380366
400	384	15	16	15	FS-KJSA 400384
420	404	15	16	15	FS-KJSA 420404
425	409	15	16	15	FS-KJSA 425409
450	434	15	16	15	FS-KJSA 450434
480	464	15	16	15	FS-KJSA 480464
500	484	15	16	15	FS-KJSA 500484
560	544	15	16	15	FS-KJSA 560544
600	584	15	16	15	FS-KJSA 600584
630	614	15	16	15	FS-KJSA 630614

KGLU

Standard materials

Sealing ring: polyurethane

O-ring: nitrile rubber

Application scope

Mainly used for double acting pistons in hydraulic components.

Features

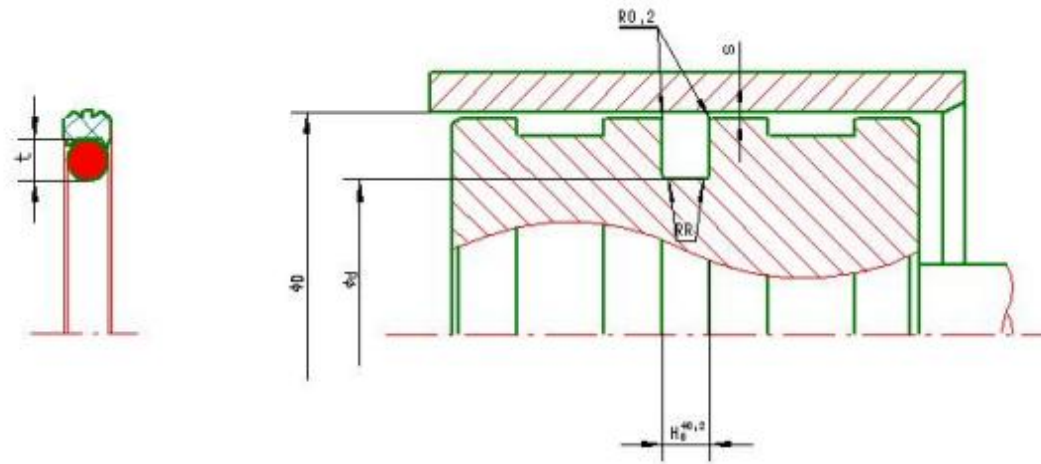
- Good dynamic and static sealing effect
- Simple structure
- Excellent wear resistance
- Easy to install

Operating conditions

Speed: $\leq 0.5\text{m/s}$

Pressure range: 0-40Mpa

Temperature: -35°C $+110^{\circ}\text{C}$

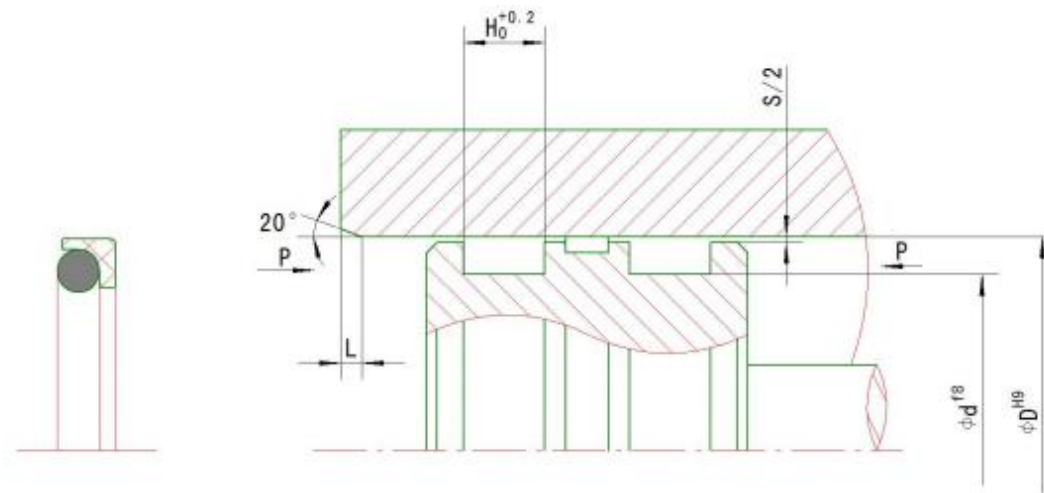


Groove Size

Description	Groove dia.	Groove width	Radius	Radial clearance
	D	d	RO,2	S
Sealing ring	D-4.9	2.2	0.4	0.2
	D-7.5	3.2	0.6	0.25
	D-11	4.2	1	0.25
	D-15.5	6.3	1.3	0.3
	D-21	8.1	1.8	0.3

Groove Width	Groove dia.	Cylinder hole dia.	Art.No.	Groove width	Groove Dia.	Cylinder hole dia.	Art. No.
d	D	DH9		d	D	DH9	
3.2	7.1	12	FS-KGLU 12	3.2	27.5	35	FS-KGLU 35
3.2	4.5	12	FS-KGLU 12-1	4.2	24	35	FS-KGLU 35-1
3.2	7.5	15	FS-KGLU 15	3.2	28.5	36	FS-KGLU 36
3.2	8.5	16	FS-KGLU 16	4.2	25	36	FS-KGLU 36-1
3.2	9.5	17	FS-KGLU 17	3.2	30.5	38	FS-KGLU 38
3.2	12.5	20	FS-KGLU 20	3.2	32.5	40	FS-KGLU 40
3.2	14.5	22	FS-KGLU 22	4.2	29	40	FS-KGLU 40-1
3.2	16.5	24	FS-KGLU 24	6.3	24.5	40	FS-KGLU 40-2
3.2	17.5	25	FS-KGLU 25	4.2	30	41	FS-KGLU 41
4.2	14	25	FS-KGLU 25-1	4.2	31	42	FS-KGLU 42
3.2	20.5	28	FS-KGLU 28	4.2	34	45	FS-KGLU 45
3.2	22.5	30	FS-KGLU 30	6.3	29.5	45	FS-KGLU 45-1
3.2	24.5	32	FS-KGLU 32	4.2	37	48	FS-KGLU 48
4.2	21	32	FS-KGLU 32-1	4.2	38	49	FS-KGLU 49
3.2	26.5	34	FS-KGLU 34	4.2	39	50	FS-KGLU 50

Groove Width	Groove dia.	Cylinder hole dia.	Art.No.	Groove width	Groove Dia.	Cylinder hole dia.	Art. No.
d	D	DH9		d	D	DH9	
6.3	34.5	50	FS-KGLU 50-1	6.3	89.5	105	FS-KGLU 105
6.3	36.5	52	FS-KGLU 52	6.3	94.5	110	FS-KGLU 110
4.2	43	54	FS-KGLU 54	6.3	99.5	115	FS-KGLU 115
4.2	44	55	FS-KGLU 55	8.1	94	115	FS-KGLU 115-1
6.3	39.5	55	FS-KGLU 55-1	6.3	102.5	118	FS-KGLU 118
4.2	45	56	FS-KGLU 56	6.3	104.5	120	FS-KGLU 120
4.2	46	57	FS-KGLU 57	6.3	109.5	125	FS-KGLU 125
4.2	49	60	FS-KGLU 60	8.1	104	125	FS-KGLU 125-1
6.3	44.5	60	FS-KGLU 60-1	6.3	114.5	130	FS-KGLU 130
4.2	52	63	FS-KGLU 63	8.1	109	130	FS-KGLU 130-1
6.3	47.5	63	FS-KGLU 63-1	6.3	119.5	135	FS-KGLU 135
4.2	54	65	FS-KGLU 65	8.1	114	135	FS-KGLU 135-1
6.3	49.5	65	FS-KGLU 65-1	8.1	119	140	FS-KGLU 140
4.2	59	70	FS-KGLU 70	8.1	129	150	FS-KGLU 150
6.3	54.5	70	FS-KGLU 70-1	8.1	139	160	FS-KGLU 160
4.2	61	72	FS-KGLU 72	8.1	149	170	FS-KGLU 170
6.3	58.5	74	FS-KGLU 74	8.1	159	180	FS-KGLU 180
4.2	64	75	FS-KGLU 75	8.1	164	185	FS-KGLU 185
6.3	59.5	75	FS-KGLU 75-1	8.1	169	190	FS-KGLU 190
4.2	69	80	FS-KGLU 80	8.1	179	200	FS-KGLU 200
6.3	64.5	80	FS-KGLU 80-1	8.1	189	210	FS-KGLU 210
6.3	68.5	84	FS-KGLU 84	8.1	199	220	FS-KGLU 220
6.3	69.5	85	FS-KGLU 85	8.1	209	230	FS-KGLU 230
6.3	74.5	90	FS-KGLU 90	8.1	219	240	FS-KGLU 240
6.3	79.5	95	FS-KGLU 95	8.1	229	250	FS-KGLU 250
6.3	84.5	100	FS-KGLU 100	8.1	279	300	FS-KGLU 300
4.2	89	100	FS-KGLU 100-1				





Groove Size

Cylinder dia.	Groove bottom dia.	Groove width	O-ring surface dia.	Fillet	Clearance
D H9	d f8	H+0.2	t	R	S≤
13-23	D-5.0	4.2	2.65	0.2-0.4	0.3
24-49	D-6.8	5.2	3.55	0.4-0.6	0.3
50-121	D-10.0	7.8	5.3	0.4-0.6	0.4
122-685	D-13.0	9.8	7	0.6-0.8	0.4
Note: Cylinder dia.D≤Φ100mm, it is suggested to use open grooves. If you need to use closed groove, please contact our technical department.					

KCA

Standard materials

Seals material: filling PTFE

O-ring: nitrile rubber or fluorine rubber

Application scope

Suitable for end static sealing in hydraulic and pneumatic systems.

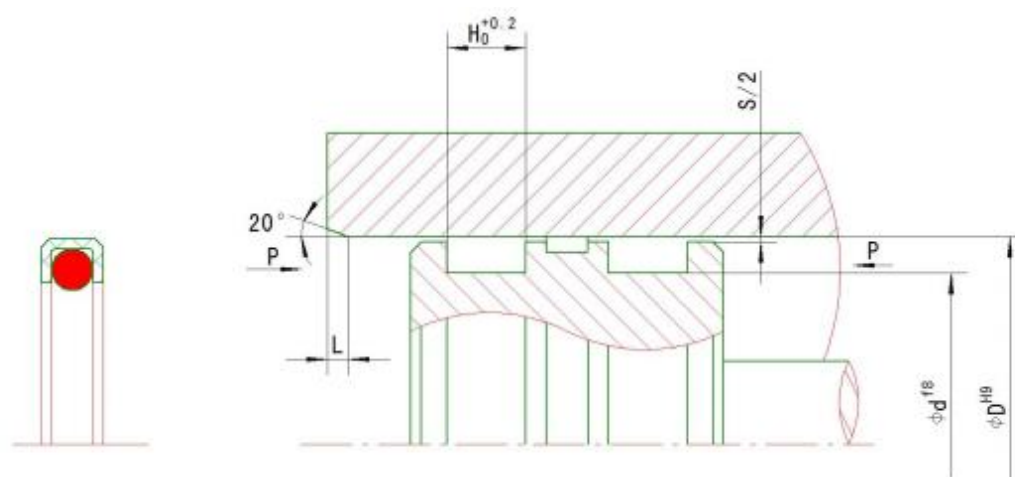
Operating conditions

Speed: $\leq 6\text{m/s}$

Pressure range: 0-200Mpa

Temperature: -55°C $+250^{\circ}\text{C}$

Section view



Groove Size

Cylind r dia.	Groove bottom dia.	Groove width	O-ring surface dia.	Fillet	Clearance
D H9	d f8	H+0.2	t	R	S≤
14-26	D-4.6	4.5	2.4	0.2-0.4	0.3
28-165	D-6.0	5.6	3.1	0.3-0.5	0.3
28-56	D-6.8	6.2	3.5	0.3-0.5	0.3
60-300	D-10.8	9.8	5.7	0.6-0.8	0.4
170-1000	D-16	13.6	8.6	0.8-1.2	0.4
Note: Cylinder dia.D≤Φ100mm, it is suggested to use open grooves. If you need to use closed groove, please contact our technical department.					

KJB

Standard materials

Seals material: filling PTFE

O-ring: nitrile rubber or fluorine rubber

Application scope

Suitable for end static sealing in hydraulic and pneumatic systems.

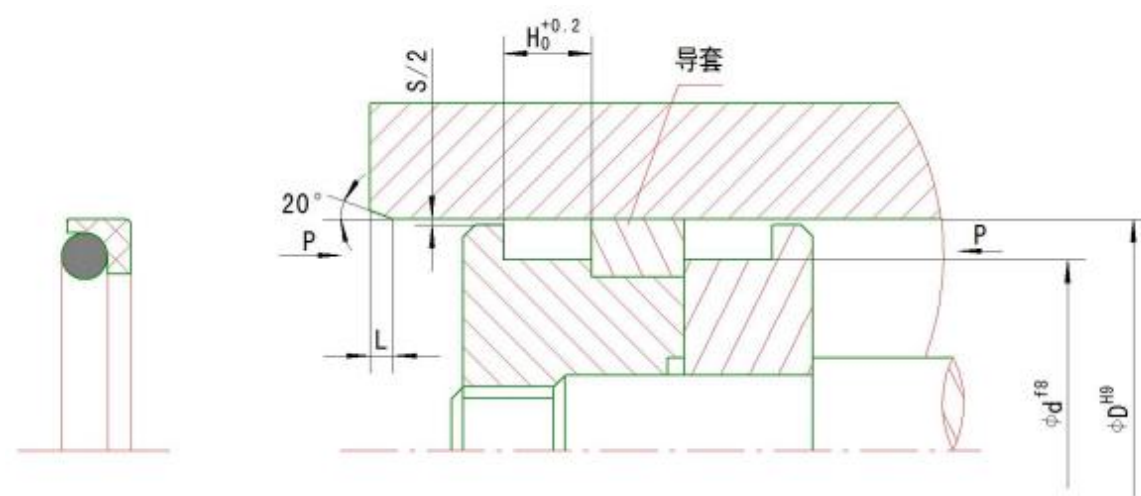
Operating conditions

Speed: $\leq 6\text{m/s}$

Pressure range: 0-200Mpa

Temperature: -55°C $+250$

Section view



Groove Size

Cylinder dia.	Groove bottom dia.	Groove width	O-ring surface dia.	Clearance
D H9	d f8	H+0.2	t	S≤
28-56	D-7.1	7.6	3.5	0.3
57-165	D-11.5	11	5.7	0.4
165-1000	D-17.2	15.5	8.6	0.4
Note: It is suggested to use materials such as bronze and cast iron to make the guide sleeve.				

KDS

Standard materials

Seals material: nitrile rubber

Wear resistant ring: nylon PA or polyoxymethylene POM

Retaining ring: polyester elastomer

Application scope

Used as sealing element in hydraulic cylinders and pistons for reciprocating motion

Features

- Installing in closed trench can reduce processing costs
- Simple groove structure
- Extremely strong anti-extrusion ability to clearance
- Elastomers do not twist or flip
- Good anti leakage performance
- Easy to install

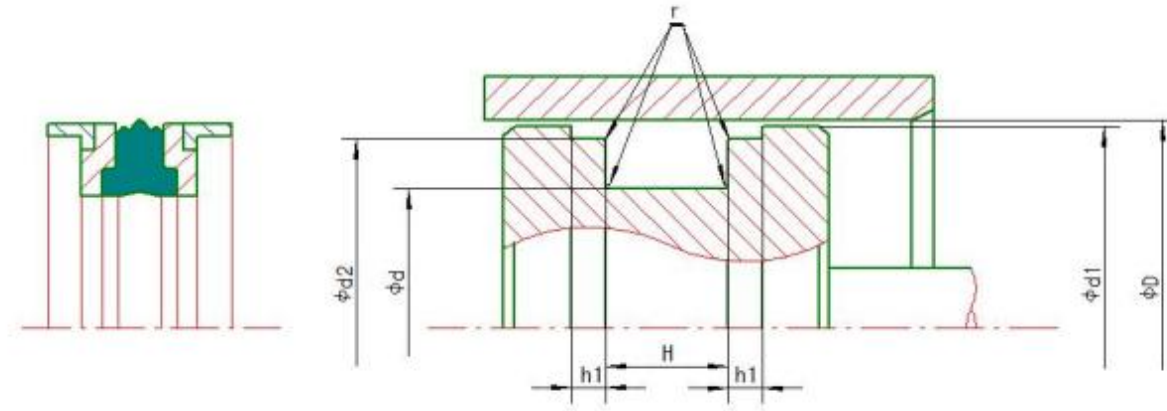
Operating conditions

Speed: $\leq 0.5\text{m/s}$

Pressure range: 0-35Mpa

Temperature: -30°C $+110^{\circ}\text{C}$

Section view



Groove Size

Type KDS							
d	d2	d1	D	h1	H	r max	Art.No.
11	17	19	20	2.1	13.5	0.4	KDS 2011
13	19	21	22	2.1	13.5	0.4	KDS 2213
15	21	23	25	4	12	0.4	KDS 2515
15	22	24	25	4	12.5	0.4	KDS 2515-1
15	21.5	23.5	25	6.35	16.4	0.4	KDS 2515-2
16	22	24	25	2.1	13.5	0.4	KDS 2516
19	25	27	28	2.1	13.5	0.4	KDS 2819
17	26.5	28.5	30	6.35	15.4	0.4	KDS 3017
21	27	29	30	2.1	13.5	0.4	KDS 3021
22	28	31	32	2.6	15.5	0.4	KDS 3222
22	28.5	30.5	32	6.35	16.5	0.4	KDS 3222-1
25	31	34	35	2.6	15.5	0.4	KDS 3525
25	31.4	33.5	35	6.35	16.4	0.4	KDS 3525-1
24	35.4	38.5	40	6.35	18.4	0.4	KDS 4024
26	36	39	40	2.6	15.5	0.4	KDS 4026
30	36	38	40	4	12.5	0.4	KDS 4030
30	37	39	40	4	12.5	0.4	KDS 4030-1
30	35.4	38.5	40	6.35	16.4	0.4	KDS 4030-2
28	38	41	42	2.6	15.5	0.4	KDS 4228
29	40.4	43.5	45	6.35	18.4	0.4	KDS 4529
31	41	44	45	2.6	15.5	0.4	KDS 4531
35	40.4	43.5	45	6.35	16.4	0.4	KDS 4535
34	45.4	48.5	50	6.35	18.4	0.4	KDS 5034

Type KDS

d	d2	d1	D	h1	H	r max	Art.No.
34	46	49	50	3.1	20.5	0.4	KDS 5034-1
39	50.4	53.5	55	6.35	18.4	0.4	KDS 5539
39	51	54	55	3.1	20.5	0.4	KDS 5539-1
40	52	55	56	3.1	20.5	0.4	KDS 5640
44	55.4	58.5	60	6.35	18.4	0.4	KDS 6044
44	56	59	60	3.1	20.5	0.4	KDS 6044-1
47	58.4	61.5	63	6.35	18.4	0.4	KDS 6347
47	58.4	61.5	63	6.35	19.4	0.4	KDS 6347-1
47	59	62	63	3.1	20.5	0.4	KDS 6347-2
49	61	64	65	3.1	20.5	0.4	KDS 6549
50	60.4	63.5	65	6.35	18.4	0.4	KDS 6550
50	64.2	68.3	70	6.35	22.4	0.4	KDS 7050
54	66	69	70	3.1	20.5	0.4	KDS 7054
55	69.2	73.3	75	6.35	22.4	0.4	KDS 7555
59	71	74	75	3.1	20.5	0.4	KDS 7559
60	74.2	78.3	80	6.35	22.4	0.4	KDS 8060
62	76	79	80	3.6	22.5	0.4	KDS 8062
65	79.2	83.3	85	6.35	22.4	0.4	KDS 8565
70	84.2	88.3	90	6.35	22.4	0.4	KDS 9070
72	86	89	90	3.6	22.5	0.4	KDS 9072
75	89.2	93.3	95	6.35	22.4	0.4	KDS 9575
75	93.2	98	100	6.35	22.4	0.4	KDS 10075
82	96	99	100	3.6	22.5	0.4	KDS 10082
80	98	103	105	6.35	22.4	0.4	KDS 10580
85	103	108	110	6.35	22.4	0.4	KDS 11085
92	106	109	110	3.6	22.5	0.4	KDS 11092
90	108	113	115	6.35	22.4	0.4	KDS 11590
97	111	114	115	3.6	22.5	0.4	KDS 11597
95	113	118	120	6.35	22.4	0.8	KDS 12095
100	118	123	125	6.35	25.4	0.8	KDS 125100
103	121	124	125	5.1	26.5	0.8	KDS 125103
105	123	128	130	6.35	25.4	0.8	KDS 130105
105	123	128	130	9.5	25.4	0.8	KDS 130105-1
115	126	131	133	9.52	22.4	0.8	KDS 133115
110	128	133	135	6.35	25.4	0.8	KDS 135110
110	128	133	135	9.5	25.4	0.8	KDS 135110-1
115	133	138	140	6.35	25.4	0.8	KDS 140115
115	133	138	140	9.5	25.4	0.8	KDS 140115-1
118	136	139	140	5.1	26.5	0.8	KDS 140118

Type KDS							
d	d2	d1	D	h1	H	r max	Art.No.
120	138	143	145	6.35	25.4	0.8	KDS 145120
120	138	143	145	9.5	25.4	0.8	KDS 145120-1
125	143	148	150	9.5	25.4	0.8	KDS 150125
125	143	148	150	6.35	25.4	0.8	KDS 150125-1
128	146	149	150	5.1	26.5	0.8	KDS 150128
127	145	150	152.4	9.5	31.75	0.8	KDS 152.4-1
130	148	153	155	9.5	25.4	0.8	KDS 155130
130	148	153	155	6.35	25.4	0.8	KDS 155130-1
130	153	158	160	6.35	25.4	0.8	KDS 160130
130	153	158	160	9.5	25.4	0.8	KDS 160130-1
135	153	158	160	9.5	25.4	0.8	KDS 160135
138	156	159	160	5.1	25.4	0.8	KDS 160138
140	158	163	165	9.5	26.5	0.8	KDS 165140
145	162	167	170	12.7	25.4	0.8	KDS 170145
148	166	169	170	5.1	26.5	0.8	KDS 170148
150	167	172	175	12.7	25.4	0.8	KDS 175150
150	173	178	180	6.35	35.4	0.8	KDS 180150
155	172	177	180	12.7	25.4	0.8	KDS 180155
160	177	182	185	12.7	25.4	0.8	KDS 185160
165	182	187	190	12.7	25.4	0.8	KDS 190165
170	187	192	195	12.7	25.4	0.8	KDS 195170
175	192	197	200	12.7	25.4	0.8	KDS 200175
175	196	199	200	6.6	31.5	0.8	KDS 200175-1
185	202	207	210	12.7	25.4	0.8	KDS 210185
190	213	218	220	6.35	35.4	0.8	KDS 220190
195	212	217	220	12.7	25.4	0.8	KDS 220195
205	222	227	230	12.7	25.4	0.8	KDS 230205
215	232	237	240	12.7	25.4	0.8	KDS 240215
220	243	248	250	6.35	35.4	0.8	KDS 250220
225	242	247	250	12.7	25.4	0.8	KDS 250225

KZU

Standard materials

Sealing ring: polyurethane

Application scope:

Hydraulic reciprocating motion environment with light and medium loads. Widely used in various industrial fields, such as walking machinery, light industry machinery, agricultural machinery, injection molding machinery, forklifts, cranes, automobiles, forestry and mining machinery, etc. Also has good mechanical properties under harsh working conditions.

Features

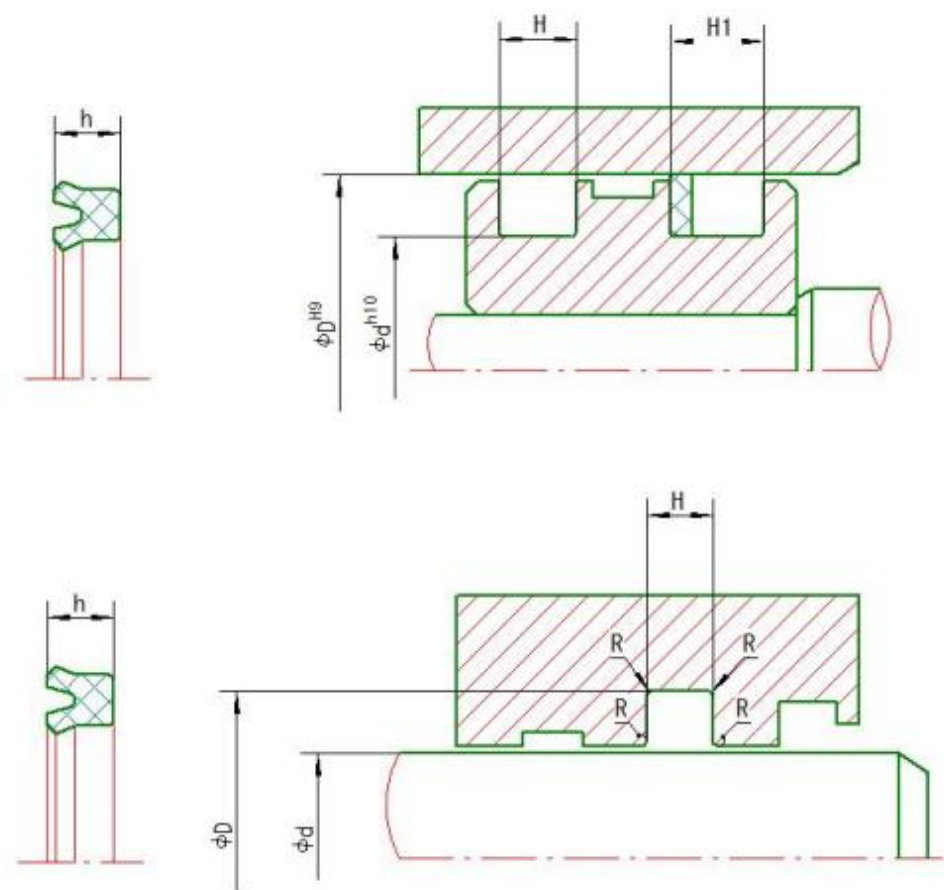
- High wear resistance, low compression deformation, and good extrusion resistance
- Especially tear resistance when subjected to bending and stretching
- Very easy to install
- No effect on heavy load and piston rod bending
- Compared to the double-lip form, the friction is smaller in low pressure range

Operating conditions

Speed: 0.5m/s

Pressure range: 0-35Mpa

Section view



Groove Size

Ød	ØD	h	Art.No.	Ød	ØD	h	Art.No.
4	10	4	FS-KZU 0410	6	14	5	FS-KZU 0614
4	11	5	FS-KZU 0411	6	14	6	FS-KZU 0614-1
4	12	4	FS-KZU 0412	6	14	8	FS-KZU 0614-2
5	11	8	FS-KZU 0511	6	15	6	FS-KZU 0615
5	12	5	FS-KZU 0512	6	16	6	FS-KZU 0616
5	12	6	FS-KZU 0512-1	6	16	8	FS-KZU 0616-1
5	12	8	FS-KZU 0512-2	8	14	4	FS-KZU 0814
5	14	6	FS-KZU0 514	8	14	6	FS-KZU 0814-1
5	14	8	FS-KZU 0514-1	8	14	8	FS-KZU 0814-2
5	16	6	FS-KZU 0516	8	15	6	FS-KZU 0815
5	16	8	FS-KZU 0516-1	8	15	8	FS-KZU 0815-1
6	12	4	FS-KZU 0612	8	16	4	FS-KZU 0816
6	12	5	FS-KZU 0612-1	8	16	6	FS-KZU 0816-1
6	12	6	FS-KZU 0612-2	8	16	8	FS-KZU 0816-2
6	12	8	FS-KZU 0612-3	8	18	8	FS-KZU 0818
6	13	5	FS-KZU 0613	8	19	8	FS-KZU 0819

Ød	ØD	h	Art.No.	Ød	ØD	h	Art.No.
8	22	10	FS-KZU 0822	14	21	5	FS-KZU 142-
9	16	6	FS-KZU 0916	14	22	4	FS-KZU 1422
9	19	6	FS-KZU 0919	14	22	5	FS-KZU 1422-1
9	19	8	FS-KZU 0919-1	14	22	6	FS-KZU 1422-2
10	14	4	FS-KZU 1014	14	22	8	FS-KZU 1422-3
10	15	3	FS-KZU 1015	14	24	5	FS-KZU 1424
10	16	4	FS-KZU 1016	14	24	8	FS-KZU 1424-1
10	16	6	FS-KZU 1016-1	14	25	8	FS-KZU 1425
10	16	8	FS-KZU 1016-2	14	26	5	FS-KZU 1426
10	18	5	FS-KZU 1018	14	28	10	FS-KZU 1428
10	18	6	FS-KZU 1018-1	14	30	5	FS-KZU 1430
10	18	8	FS-KZU 1018-2	15	21	4	FS-KZU 1521
10	20	5	FS-KZU 1020	15	22	6	FS-KZU 1522
10	20	6	FS-KZU 1020-1	15	22	8	FS-KZU 1522-1
10	20	7	FS-KZU 1020-2	15	23	5	FS-KZU 1523
10	20	8	FS-KZU 1020-3	15	25	5	FS-KZU 1525
10	22	6	FS-KZU 1022	15	25	6	FS-KZU1 525-1
10	22	8	FS-KZU 1022-1	15	25	7	FS-KZU1 525-2
11	17	4	FS-KZU 1117	15	25	8	FS-KZU 1525-3
12	18	4	FS-KZU 1218	15	25	10	FS-KZU 1525-4
12	18	5	FS-KZU 1218-1	15	27	7	FS-KZU 1527
12	18	6	FS-KZU 1218-2	15	30	8	FS-KZU 1530
12	18	8	FS-KZU 1218-3	15	30	10	FS-KZU 1530-1
12	19	5	FS-KZU 1219	16	22	4	FS-KZU 1622
12	20	4	FS-KZU 1220	16	22	5	FS-KZU 1622-1
12	20	5	FS-KZU 1220-1	16	22	6	FS-KZU 1622-2
12	20	6	FS-KZU 1220-2	16	22	7	FS-KZU 1622-3
12	20	7	FS-KZU 1220-3	16	22	8	FS-KZU 1622-4
12	20	8	FS-KZU 1220-4	16	24	4	FS-KZU 1624
12	22	5	FS-KZU 1222	16	24	5	FS-KZU 1624-1
12	22	6	FS-KZU 1222-1	16	24	8	FS-KZU 1624-2
12	22	7	FS-KZU 1222-2	16	24	9	FS-KZU 1624-3
12	22	8	FS-KZU 1222-3	16	26	5	FS-KZU 1626
12	24	6	FS-KZU 1224	16	26	7	FS-KZU1 626-1
12	24	8	FS-KZU 1224-1	16	26	8	FS-KZU1 626-2
12	25	8	FS-KZU 1225	16	28	6	FS-KZU 1628
12	25	10	FS-KZU 1225-1	16	30	5	FS-KZU 1630
12	26	10	FS-KZU 1226	16	30	6	FS-KZU 1630
13	21	5	FS-KZU 1321	16	32	8	FS-KZU 1632
14	20	5	FS-KZU 1420	16	36	5	FS-KZU 1636
14	20	6	FS-KZU 1420-1	17	25	5	FS-KZU 1725
14	20	8	FS-KZU 1420-2	17	25	6	FS-KZU 1725-1

Ød	ØD	h	Art.No.	Ød	ØD	h	Art.No.
17	30	7	FS-KZU 1730-1	20	40	8	FS-KZU 2040
18	22	8	FS-KZU 1822	20	40	10	FS-KZU 2040-1
18	24	5	FS-KZU 1824	20	40	12	FS-KZU 2040-2
18	24	8	FS-KZU 1824-1	20	28	4	FS-KZU 2028
18	25	5	FS-KZU 1825	22	28	8	FS-KZU 2228
18	26	5	FS-KZU 1826	22	29	5	FS-KZU 2229
18	26	6	FS-KZU 1826-1	22	30	4	FS-KZU 2230
18	26	7	FS-KZU 1826-2	22	30	5	FS-KZU 2230-1
18	26	8	FS-KZU 1826-3	22	30	6	FS-KZU 2230
18	28	5	FS-KZU 1828	22	30	7	FS-KZU 2230-1
18	28	8	FS-KZU 1828-1	22	32	5	FS-KZU 2232
18	30	6	FS-KZU 1830	22	32	6	FS-KZU 2232-1
18	30	8	FS-KZU 1830-1	22	32	8	FS-KZU 2232-2
18	30	10	FS-KZU 1830-2	22	32	10	FS-KZU 2232-2
18	31	8	FS-KZU 1831	22	34	7	FS-KZU 2234
18	32	7	FS-KZU 1832	22	34	10	FS-KZU 2234-1
18	34	8	FS-KZU 1834	22	35	6	FS-KZU 2235
18	38	6	FS-KZU 1838	22	35	7	FS-KZU 2235-1
19	25	5	FS-KZU 1925	22	35	8	FS-KZU 2235-2
19	25	7	FS-KZU 1925-1	22	35	10	FS-KZU 2235-3
19	34	8	FS-KZU 1934	22	36	9	FS-KZU 2236
20	26	5	FS-KZU 2026	22	38	8	FS-KZU 2238
20	26	6	FS-KZU 2026-1	22	40	10	FS-KZU 2240
20	28	4	FS-KZU 2028	22	40	12	FS-KZU 2240-1
20	28	5	FS-KZU 2028-1	23	35	6	FS-KZU 2335
20	28	6	FS-KZU 2028-2	24	30	6	FS-KZU 2430
20	28	7	FS-KZU 2028-3	24	32	4	FS-KZU 2432
20	28	8	FS-KZU 2028-4	24	32	5	FS-KZU 2432-1
20	30	5	FS-KZU 2030	24	32	6	FS-KZU 2432-2
20	30	6	FS-KZU 2030-1	24	32	7	FS-KZU 2432-3
20	30	7	FS-KZU 2030-2	24	34	5	FS-KZU 2434
20	30	8	FS-KZU 2030-3	24	34	6	FS-KZU 2434-1
20	30	10	FS-KZU 2030-4	24	34	7	FS-KZU 2434-2
20	31	8	FS-KZU 2031	24	36	6	FS-KZU 2436
20	32	6	FS-KZU 2032	24	36	8	FS-KZU 2436-1
20	32	8	FS-KZU 2032-1	25	30	6	FS-KZU 2530
20	33	8	FS-KZU 2033	25	31	6	FS-KZU 2531
20	33	10	FS-KZU 2033-1	25	32	4	FS-KZU 2532
20	35	7	FS-KZU 2035	25	32	5	FS-KZU 2532-1
20	35	8	FS-KZU 2035-1	25	32	7	FS-KZU 2532-2
20	35	10	FS-KZU 2035-2	25	33	5	FS-KZU 2533
20	36	8	FS-KZU 2036	25	33	6	FS-KZU 2533-1

Ød	ØD	h	Art.No.	Ød	ØD	h	Art.No.
25	33	7	FS-KZU 2533-2	30	38	6	FS-KZU 3038-1
25	33	8	FS-KZU 2533-3	30	38	7	FS-KZU 3038-2
25	33	10	FS-KZU 2533-4	30	38	8	FS-KZU 3038-3
25	35	5	FS-KZU 2535	30	40	5	FS-KZU 3040
25	35	6	FS-KZU 2535-1	30	40	6	FS-KZU 3040-1
25	35	7	FS-KZU 2535-2	30	40	7	FS-KZU 3040-2
25	35	8	FS-KZU 2535-3	30	40	8	FS-KZU 3040-3
25	35	10	FS-KZU 2535-4	30	40	10	FS-KZU 3040-4
25	36	6	FS-KZU 2536	30	42	6	FS-KZU 3042
25	37	7	FS-KZU 2537	30	42	8	FS-KZU 3042-1
25	38	8	FS-KZU 2538	30	42	9	FS-KZU 3042-2
25	38	10	FS-KZU 2538-1	30	42	10	FS-KZU 3042-3
25	40	6	FS-KZU 2540	30	45	8	FS-KZU 3045
25	40	8	FS-KZU 2540-1	30	45	10	FS-KZU 3045-1
25	40	10	FS-KZU 2540-2	30	46	10	FS-KZU 3046
25	42	8	FS-KZU 2542	30	47	10	FS-KZU 3047
25	43	8	FS-KZU 2543	30	48	10	FS-KZU 3048
25	45	8	FS-KZU 2545	30	50	9	FS-KZU 3050
25	45	10	FS-KZU 2545-1	30	50	10	FS-KZU 3050-1
25	50	10	FS-KZU 2550	30	50	11	FS-KZU 3050-2
26	36	8	FS-KZU 2636	30	50	12	FS-KZU 3050-3
26	36	10	FS-KZU 2636-1	30	52	10	FS-KZU 3052
26	38	8	FS-KZU 2638	31	47	10	FS-KZU 3147
26	47	12	FS-KZU 2647	32	39	8	FS-KZU 3239
27	35	5	FS-KZU 2735	32	40	4	FS-KZU 3240
27	36	6	FS-KZU 2736	32	40	5	FS-KZU 3240-1
28	35	6	FS-KZU 2835	32	40	6	FS-KZU 3240-2
28	36	4	FS-KZU 2836	32	40	8	FS-KZU 3240-3
28	36	5	FS-KZU 2836-1	32	40	10	FS-KZU 3240-4
28	36	6	FS-KZU 2836-2	32	42	6	FS-KZU 3242
28	36	7	FS-KZU 2836-3	32	42	7	FS-KZU 3242-1
28	36	8	FS-KZU 2836-4	32	42	8	FS-KZU 3242-2
28	38	7	FS-KZU 2838	32	42	10	FS-KZU 3242-3
28	38	8	FS-KZU 2838-1	32	45	6	FS-KZU 3245
28	38	10	FS-KZU 2838-2	32	45	8	FS-KZU 3245-1
28	40	8	FS-KZU 2840	32	45	10	FS-KZU 3245-2
28	40	10	FS-KZU 2840-1	32	46	10	FS-KZU 3246
28	43	10	FS-KZU 2843	32	47	10	FS-KZU 3247
28	44	8	FS-KZU 2844	32	48	8	FS-KZU 3248
28	50	13	FS-KZU 2850	32	48	10	FS-KZU 3248-1
30	36	8	FS-KZU 3036	32	50	10	FS-KZU 3250
30	37	6	FS-KZU 3037	33	39	8	FS-KZU 3339

Ød	ØD	h	Art.No.	Ød	ØD	h	Art.No.
33	40	8	FS-KZU 3340	39	54	10	FS-KZU 3954
34	45	8	FS-KZU 3445	39	58	13	FS-KZU 3958
34	50	12	FS-KZU 3450	40	48	5	FS-KZU 4048
35	41	5	FS-KZU 3541	40	48	6	FS-KZU 4048-1
35	42	10	FS-KZU 3542	40	48	8	FS-KZU 4048-2
35	43	5	FS-KZU 3543	40	48	10	FS-KZU 4048-3
35	43	6	FS-KZU 3543-1	40	48	11	FS-KZU 4048-4
35	43	7	FS-KZU 3543-2	40	50	5	FS-KZU 4050
35	45	5	FS-KZU 3545	40	50	6	FS-KZU 4050-1
35	45	6	FS-KZU 3545-1	40	50	7	FS-KZU 4050-2
35	45	6	FS-KZU 3545-2	40	50	8	FS-KZU 4050-3
35	45	7	FS-KZU 3545-3	40	50	9	FS-KZU 4050-4
35	45	8	FS-KZU 3545-4	40	50	10	FS-KZU 4050-5
35	45	10	FS-KZU 3545-5	40	52	7	FS-KZU 4052
35	46	6	FS-KZU 3546	40	52	8	FS-KZU 4052-1
35	46	8	FS-KZU 3546-1	40	52	10	FS-KZU 4052-2
35	46	10	FS-KZU 3546-2	40	53	8	FS-KZU 4053
35	47	6	FS-KZU 3547	40	55	7	FS-KZU 4055
35	48	8	FS-KZU 3548	40	55	8	FS-KZU 4055-1
35	48	10	FS-KZU 3548-1	40	55	10	FS-KZU 4055-2
35	50	8	FS-KZU 3550	40	56	6	FS-KZU 4056
35	50	9	FS-KZU 3550-1	40	60	10	FS-KZU 4060
35	50	10	FS-KZU 3550-2	40	60	12	FS-KZU 4060-1
35	55	10	FS-KZU 3555	40	63	13	FS-KZU 4063
36	44	4	FS-KZU 3644	40	65	10	FS-KZU 4065
36	44	8	FS-KZU 3644-1	40	65	12	FS-KZU 4065-1
36	46	6	FS-KZU 3646	41	57	10	FS-KZU 4157
36	46	7	FS-KZU 3646-1	41	61	10	FS-KZU 4161
36	46	10	FS-KZU 3646-2	42	50	6	FS-KZU 4250
36	48	10	FS-KZU 3648	42	50	8	FS-KZU 4250-1
37	47	8	FS-KZU 3747	42	52	6	FS-KZU 4252
37	47	10	FS-KZU 3747-1	42	52	8	FS-KZU 4252-1
38	45	5	FS-KZU 3845	42	52	10	FS-KZU 4252-2
38	48	10	FS-KZU 3848	42	53	9	FS-KZU 4253
38	50	6	FS-KZU 3850	42	55	7	FS-KZU 4255
38	50	8	FS-KZU 3850-1	42	55	8	FS-KZU 4255-1
38	50	9	FS-KZU 3850-2	42	62	12	FS-KZU 4262
38	50	10	FS-KZU 3850-3	43	55	6	FS-KZU 4355
38	52	10	FS-KZU 3852	45	52	10	FS-KZU 4552
38	55	10	FS-KZU 3855	45	53	6	FS-KZU 4553
38	58	10	FS-KZU 3858	45	53	8	FS-KZU 4553-1
38	60	10	FS-KZU 3860	45	53	10	FS-KZU 4553-2

Ød	ØD	h	Art.No.	Ød	ØD	h	Art.No.
45	55	5	FS-KZU 4555	50	63	10	FS-KZU 5063-2
45	55	6	FS-KZU 4555-1	50	65	8	FS-KZU 5065
45	55	7	FS-KZU 4555-2	50	65	9	FS-KZU 5065-1
45	55	10	FS-KZU 4555-3	50	65	10	FS-KZU 5065-2
45	55	12	FS-KZU 4555-4	50	65	12	FS-KZU 5065-3
45	56	7	FS-KZU 4556	50	66	12	FS-KZU 5066
45	56	10	FS-KZU 4556-1	50	68	10	FS-KZU 5068
45	58	10	FS-KZU 4558	50	70	10	FS-KZU 5070
45	58	12	FS-KZU 4558-1	50	70	12	FS-KZU 5070-1
45	60	9	FS-KZU 4560	50	70	18	FS-KZU 5070-2
45	60	10	FS-KZU 4560-1	51	66	14	FS-KZU 5166
45	60	12	FS-KZU 4560-2	52	62	12	FS-KZU 5262
45	61	10	FS-KZU 4561	52	65	6	FS-KZU 5265
45	63	10	FS-KZU 4563	52	70	12	FS-KZU 5270
45	63	12	FS-KZU 4563-1	53	63	6	FS-KZU 5363
45	65	10	FS-KZU 4565	53	63	10	FS-KZU 5363-1
45	65	12	FS-KZU 4565-1	53	65	8	FS-KZU 5365
45	70	12	FS-KZU 4570	53	73	12	FS-KZU 5373
45	70	16	FS-KZU 4570-1	54	64	6	FS-KZU 5464
46	56	8	FS-KZU 4656	54	70	12	FS-KZU 5470
46	62	10	FS-KZU 4662	55	65	5	FS-KZU 5565
47	55	10	FS-KZU 4755	55	65	6	FS-KZU 5565-1
48	58	6	FS-KZU 4858	55	65	8	FS-KZU 5565-2
48	58	8	FS-KZU 4858-1	55	65	10	FS-KZU 5565-3
48	58	10	FS-KZU 4858-2	55	65	12	FS-KZU 5565-4
48	60	6	FS-KZU 4860	55	66	10	FS-KZU 5566
48	63	10	FS-KZU 4863	55	70	8	FS-KZU 5570
50	57	10	FS-KZU 5057	55	70	9	FS-KZU 5570-1
50	58	6	FS-KZU 5058	55	70	10	FS-KZU 5570-2
50	58	8	FS-KZU 5058-1	55	70	12	FS-KZU 5570-3
50	58	12	FS-KZU 5058-2	55	71	12	FS-KZU 5571
50	60	5	FS-KZU 5060	55	72	10	FS-KZU 5572
50	60	6	FS-KZU 5060-1	55	75	10	FS-KZU 5575
50	60	7	FS-KZU 5060-2	55	75	12	FS-KZU 5575-1
50	60	8	FS-KZU 5060-3	56	66	6	FS-KZU 5666
50	60	10	FS-KZU 5060-4	56	66	10	FS-KZU 5666-1
50	60	12	FS-KZU 5060-5	56	76	12	FS-KZU 5676
50	62	9	FS-KZU 5062	57	63	8	FS-KZU 5763
50	62	10	FS-KZU 5062-1	57	63	10	FS-KZU 5763-1
50	62	12	FS-KZU 5062-2	58	68	6	FS-KZU 5868
50	63	6	FS-KZU 5063	58	68	14	FS-KZU 5868-1
50	63	8	FS-KZU 5063-1	58	78	12	FS-KZU 5878

Ød	ØD	h	Art.No.	Ød	ØD	h	Art.No.
60	68	14	FS-KZU 6068	65	75	9	FS-KZU 6575-1
60	70	5	FS-KZU 6070	65	75	10	FS-KZU 6575-2
60	70	6	FS-KZU 6070-1	65	75	12	FS-KZU 6575-3
60	70	8	FS-KZU 6070-2	65	76	10	FS-KZU 6576
60	70	10	FS-KZU 6070-3	65	79	10	FS-KZU 6579
60	70	12	FS-KZU 6070-4	65	80	9	FS-KZU 6580
60	72	10	FS-KZU 6072	65	80	10	FS-KZU 6580-1
60	73	8	FS-KZU 6073	65	80	11	FS-KZU 6580-2
60	75	9	FS-KZU 6075	65	80	12	FS-KZU 6580-3
60	75	10	FS-KZU 6075-1	65	85	10	FS-KZU 6585
60	75	12	FS-KZU 6075-2	65	85	12	FS-KZU 6585-1
60	75	13	FS-KZU 6075-3	66	76	8	FS-KZU 6676
60	76	12	FS-KZU 6076	67	77	6	FS-KZU 6777
60	80	6	FS-KZU 6080	67	77	9.5	FS-KZU 6777-1
60	80	10	FS-KZU 6080-1	67	77	12	FS-KZU 6777-2
60	80	12	FS-KZU 6080-2	67	87	12	FS-KZU 6787
60	80	18	FS-KZU 6080-3	68	78	12	FS-KZU 6878
60	85	10	FS-KZU 6085	68	80	9	FS-KZU 6880
60	85	12	FS-KZU 6085-1	70	80	5	FS-KZU 7080
60	90	15	FS-KZU 6090	70	80	6	FS-KZU 7080-1
60	90	16	FS-KZU 6090-1	70	80	8	FS-KZU 7080-2
61	67	5	FS-KZU 6167	70	80	10	FS-KZU 7080-3
61	71	6	FS-KZU 6171	70	80	12	FS-KZU 7080-4
62	70	10	FS-KZU 6270	70	81	10	FS-KZU 7081
62	72	10	FS-KZU 6272	70	82	10	FS-KZU 7082
62	75	10	FS-KZU 6275	70	83	12	FS-KZU 7083
62	80	10	FS-KZU 6280	70	84	10	FS-KZU 7084
62	82	10	FS-KZU 6282	70	85	8	FS-KZU 7085
62	82	12	FS-KZU 6282-1	70	85	9	FS-KZU 7085-1
63	71	8	FS-KZU 6371	70	85	10	FS-KZU 7085-2
63	73	6	FS-KZU 6373	70	85	12	FS-KZU 7085-3
63	73	12	FS-KZU 6373-1	70	90	10	FS-KZU 7090
63	75	10	FS-KZU 6375	70	90	12	FS-KZU 7090-1
63	75	14	FS-KZU 6375-1	70	90	13	FS-KZU 7090-2
63	78	10	FS-KZU 6378	70	90	15	FS-KZU 7090-3
63	80	10	FS-KZU 6380	70	90	18	FS-KZU 7090-4
63	80	16	FS-KZU 6380-1	70	95	12	FS-KZU 7095
63	83	12	FS-KZU 6383	75	85	6	FS-KZU 7585
64	80	8	FS-KZU 6480	75	85	10	FS-KZU 7585-1
64	80	12	FS-KZU 6480-1	75	85	12	FS-KZU 7585-2
65	73	8	FS-KZU 6573	75	86	10	FS-KZU 7586
65	75	6	FS-KZU 6575	75	90	9	FS-KZU 7590

Ød	ØD	h	Art.No.	Ød	ØD	h	Art.No.
75	90	12	FS-KZU 7590-2	90	105	9	FS-KZU 90105
75	95	10	FS-KZU 7595	90	105	12	FS-KZU 90105-1
75	95	12	FS-KZU 7595-1	90	110	9	FS-KZU 90110
75	95	13	FS-KZU 7595-2	90	110	10	FS-KZU 90110-1
75	100	15	FS-KZU 75100	90	110	12	FS-KZU 90110-2
80	88	8	FS-KZU 8088	90	110	13	FS-KZU 90110-3
80	90	5	FS-KZU 8090	90	110	15	FS-KZU 90110-4
80	90	6	FS-KZU 8090-1	90	115	12	FS-KZU 90115
80	90	8	FS-KZU 8090-2	90	115	15	FS-KZU 90115-1
80	90	10	FS-KZU 8090-3	90	120	12	FS-KZU 90120
80	90	12	FS-KZU 8090-4	95	105	10	FS-KZU 95105
80	91	10	FS-KZU 8091	95	105	12	FS-KZU 95105-1
80	93	8	FS-KZU 8093	95	110	9	FS-KZU 95110
80	94	10	FS-KZU 8094	95	110	10	FS-KZU 95110-1
80	95	9	FS-KZU 8095	95	110	12	FS-KZU 95110-2
80	95	10	FS-KZU 8095-1	95	115	12	FS-KZU 95115
80	95	12	FS-KZU 8095-2	95	115	15	FS-KZU 95115-1
80	96	12	FS-KZU 8096	95	120	12	FS-KZU 95120
80	100	10	FS-KZU 80100	97	105	14	FS-KZU 97105
80	100	12	FS-KZU 80100-1	98	112	9	FS-KZU 98112
80	100	13	FS-KZU 80100-2	100	110	5	FS-KZU 100110
80	100	15	FS-KZU 80100-3	100	110	6	FS-KZU 100110-1
80	110	15	FS-KZU 80110	100	110	8	FS-KZU 100110-2
85	93	8	FS-KZU 8593	100	110	11	FS-KZU 100110-3
85	95	5	FS-KZU 8595	100	110	15	FS-KZU 100110-4
85	95	9	FS-KZU 8595-1	100	112	9	FS-KZU 100112
85	95	12	FS-KZU 8595-2	100	115	9	FS-KZU 100115
85	96	10	FS-KZU 8596	100	115	10	FS-KZU 100115-1
85	97	9	FS-KZU 8597	100	115	12	FS-KZU 100115-2
85	100	9	FS-KZU 85100	100	115	15	FS-KZU 100115-3
85	100	10	FS-KZU 85100-1	100	120	10	FS-KZU 100120
85	100	12	FS-KZU 85100-2	100	120	12	FS-KZU 100120-1
85	105	12	FS-KZU 85105	100	120	15	FS-KZU 100120-2
85	105	15	FS-KZU 85105-1	100	125	10	FS-KZU 100125
85	105	18	FS-KZU 85105-2	100	125	12	FS-KZU 100125-1
85	110	12	FS-KZU 85110	100	125	15	FS-KZU 100125-2
88	100	9	FS-KZU 88100	100	130	15	FS-KZU 100130
90	100	5	FS-KZU 90100	105	113	11	FS-KZU 105113
90	100	8	FS-KZU 90100-1	105	115	9	FS-KZU 105115
90	100	10	FS-KZU 90100-2	105	120	8	FS-KZU 105120
90	100	12	FS-KZU 90100-3	105	120	9	FS-KZU 105120-1
90	102	14	FS-KZU 90102	105	120	11	FS-KZU 105120-2

Ød	ØD	h	Art.No.	Ød	ØD	h	Art.No.
105	120	12	FS-KZU 105120-3	120	140	15	FS-KZU 120140-3
105	120	13	FS-KZU 105120-4	120	140	16	FS-KZU 120140-4
105	120	15	FS-KZU 105120-5	120	145	12	FS-KZU 120145
105	125	10	FS-KZU 105125	120	145	15	FS-KZU 120145-1
105	125	12	FS-KZU 105125-1	120	150	15	FS-KZU 120150
105	125	15	FS-KZU 105125-2	125	140	9	FS-KZU 125140
105	125	16	FS-KZU 105125-3	125	140	11	FS-KZU 125140-1
105	130	12	FS-KZU 105130	125	140	12	FS-KZU 125140-2
106	121	9	FS-KZU 106121	125	140	13	FS-KZU 125140-3
106	126	16	FS-KZU 106126	125	140	15	FS-KZU 125140-4
107	113	5	FS-KZU 107113	125	145	12	FS-KZU 125145
110	120	12	FS-KZU 110120	125	145	15	FS-KZU 125145-1
110	125	9	FS-KZU 110125	125	150	15	FS-KZU 125150
110	125	12	FS-KZU 110125-1	125	155	15	FS-KZU 125155
110	125	15	FS-KZU 110125-2	126	132	5	FS-KZU 126132
110	130	9	FS-KZU 110130	130	145	9	FS-KZU 130145
110	130	12	FS-KZU 110130-1	130	145	12	FS-KZU 130145-1
110	130	15	FS-KZU 110130-2	130	145	15	FS-KZU 130145-2
110	130	16	FS-KZU 110130-3	130	150	10	FS-KZU 130150
110	135	15	FS-KZU 110135	130	150	12	FS-KZU 130150-1
110	140	15	FS-KZU 110140	130	150	15	FS-KZU 130150-2
110	140	18	FS-KZU 110140-1	130	155	12	FS-KZU 130155
112	125	9	FS-KZU 112125	130	155	15	FS-KZU 130155-1
112	127	12	FS-KZU 112127	130	160	15	FS-KZU 130160
112	132	15	FS-KZU 112132	132	145	9	FS-KZU 132145
112	132	16	FS-KZU 112132-1	132	145	9	FS-KZU 132145-1
115	125	12	FS-KZU 115125	135	152	15	FS-KZU 135152
115	130	9	FS-KZU 115130	135	150	12	FS-KZU 135150
115	130	10	FS-KZU 115130-1	135	150	15	FS-KZU 135150-1
115	130	12	FS-KZU 115130-2	135	155	12	FS-KZU 135155
115	130	15	FS-KZU 115130-3	135	155	15	FS-KZU 135155-1
115	135	15	FS-KZU 115135	135	160	15	FS-KZU 135160
115	140	12	FS-KZU 115140	140	150	9	FS-KZU 140150
115	140	15	FS-KZU 115140-1	140	150	5	FS-KZU 140150-1
120	130	5	FS-KZU 120130	140	150	6	FS-KZU 140150-2
120	130	12	FS-KZU 120130-1	140	150	11	FS-KZU 140150-3
120	132	12	FS-KZU 120132	140	150	15	FS-KZU 140150-4
120	135	9	FS-KZU 120135	140	152	10	FS-KZU 140152
120	135	12	FS-KZU 120135-1	140	155	9	FS-KZU 140155
120	140	10	FS-KZU 120140	140	155	10	FS-KZU 140155-1
120	140	12	FS-KZU 120140-1	140	155	15	FS-KZU 140155-2
120	140	13	FS-KZU 120140-2	140	157	6	FS-KZU 140157

Ød	ØD	h	Art.No.	Ød	ØD	h	Art.No.
140	160	9	FS-KZU 140160	180	200	15	FS-KZU 180200-1
140	160	10	FS-KZU 140160-1	180	205	12	FS-KZU 180205
140	160	12	FS-KZU 140160-2	180	205	15	FS-KZU 180205-1
140	160	15	FS-KZU 140160-3	180	205	18	FS-KZU 180205-2
140	160	16	FS-KZU 140160-4	180	210	15	FS-KZU 180210
140	165	15	FS-KZU 140165	180	210	22	FS-KZU 180210-1
145	165	15	FS-KZU 145165	180	215	15	FS-KZU 180215
145	170	15	FS-KZU 145170	183	193	14	FS-KZU 183193
145	175	15	FS-KZU 145175	185	195	12	FS-KZU 185195
150	165	9	FS-KZU 150165	185	200	9	FS-KZU 185200
150	170	10	FS-KZU 150170	185	200	12	FS-KZU 185200-1
150	170	12	FS-KZU 150170-1	185	200	15	FS-KZU 185200-2
150	170	15	FS-KZU 150170-2	185	205	15	FS-KZU 185205
150	180	15	FS-KZU 150180	185	210	15	FS-KZU 185210
150	180	18	FS-KZU 150180-1	185	215	15	FS-KZU 185215
155	180	15	FS-KZU 155180	190	205	15	FS-KZU 190205
160	170	12	FS-KZU 160170	190	205	16	FS-KZU 190205-1
160	175	9	FS-KZU 160175	190	210	12	FS-KZU 190210
160	175	12	FS-KZU 160175-1	190	210	15	FS-KZU 190210-1
160	175	15	FS-KZU 160175-2	190	215	15	FS-KZU 190215
160	180	10	FS-KZU 160180	190	215	16	FS-KZU 190215-1
160	180	12	FS-KZU 160180-1	190	220	15	FS-KZU 190220
160	180	15	FS-KZU 160180-2	190	220	16	FS-KZU 190220-1
160	185	12	FS-KZU 160185	190	220	22	FS-KZU 190220-2
160	185	16	FS-KZU 160185	200	215	12	FS-KZU 200215
160	190	15	FS-KZU 160190	200	220	12	FS-KZU 200220
160	190	18	FS-KZU 160190	200	220	15	FS-KZU 200220-1
160	195	17	FS-KZU 160195	200	220	18	FS-KZU 200220-2
165	180	9	FS-KZU 165180	200	225	15	FS-KZU 200225
165	180	15	FS-KZU 165180-1	200	230	15	FS-KZU 200230
165	185	15	FS-KZU 165185	200	230	18	FS-KZU 200230-1
165	190	15	FS-KZU 165190	200	230	22	FS-KZU 200230-2
170	190	15	FS-KZU 170190	200	235	20	FS-KZU 200235
170	195	12	FS-KZU 170195	210	225	15	FS-KZU 210225
170	195	15	FS-KZU 170195-1	210	230	12	FS-KZU 210230
170	200	15	FS-KZU 170200	210	230	15	FS-KZU 210230-1
170	200	18	FS-KZU 170200-1	210	235	15	FS-KZU 210235
170	215	20	FS-KZU 170215	210	240	15	FS-KZU 210240
175	200	15	FS-KZU 175200	210	240	18	FS-KZU 210240-1
175	205	15	FS-KZU 175205	220	240	12	FS-KZU 210240-2
180	190	10	FS-KZU 180190	220	250	15	FS-KZU 220250
180	200	12	FS-KZU 180200	225	240	12	FS-KZU 225240

Ød	ØD	h	Art.No.	Ød	ØD	h	Art. No.
225	255	26	FS-KZU 225255	250	280	19	FS-KZU 250280-1
230	250	15	FS-KZU 230250	250	280	25	FS-KZU 250280-2
230	255	18	FS-KZU 230255	260	280	14	FS-KZU 260280
230	260	18	FS-KZU 230260	260	290	18	FS-KZU 260290
235	255	12	FS-KZU 235255	275	300	16	FS-KZU 275300
240	260	16	FS-KZU 240260	280	300	15	FS-KZU 280300
240	265	16	FS-KZU 240265	280	300	16	FS-KZU 280300-1
240	270	18	FS-KZU 240270	280	300	18	FS-KZU 280300-2
250	270	15	FS-KZU 250270	280	310	20	FS-KZU 280310
250	275	19	FS-KZU 250275	290	320	18	FS-KZU 290320
250	280	18	FS-KZU 250280	330	350	15	FS-KZU 330350

KDU

Standard materials

Seals material: filling PTFE

V-ring: corrosion-resistant spring

Application scope

Used for working conditions with single acting, high-pressure, static sealing, and pressure outside. Widely used in various static and slow dynamic sealing situations, it has good sealing effect on lighter gases, refrigerants, and vacuum, and can also be used in situations with unsatisfied surface finish.

Features

- Good sealing ability in gas and fluid applications
- High initial sealing force and good leak resistance
- Can be used for large sizes without installation tools
- Can adapt to rapid temperature changes
- Good sealing ability on unsatisfied surfaces
- Unlimited storage period

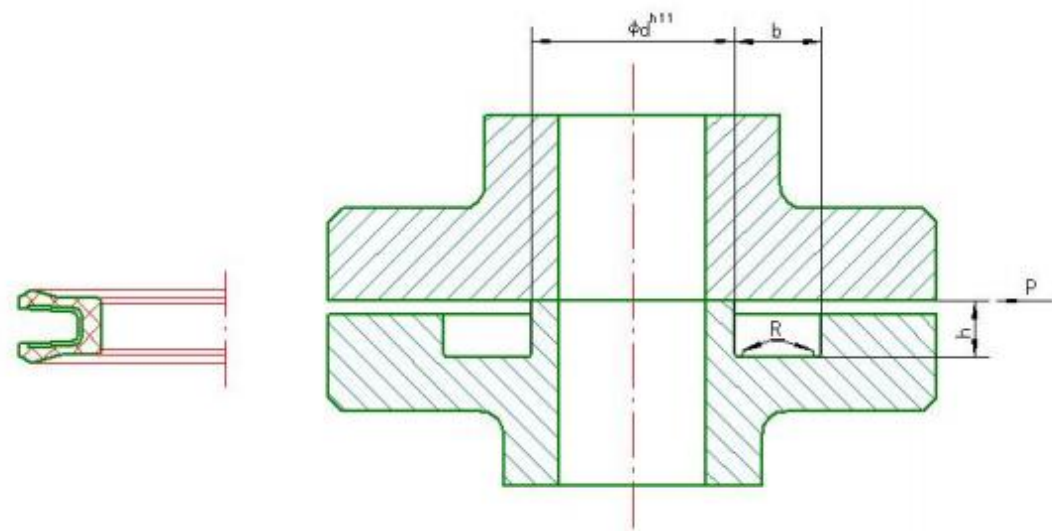
Operating conditions

Speed: reciprocating motion≤ 15m/s

Pressure range: 0-45Mpa

Temperature: -70℃ +260℃

Section view



Groove Size

KDU Outboard Seal					
Outer diameter of grooved d^{h11}		Groove width b	Groove depth		Radius R
Standard range	Applicable range	min.	h	Tol.	max.
3-9.9	3-40	2.4	1.45	0.03	0.4
10-19.9	8-200	3.6	2.25	0.05	0.4
20-39.9	12-400	4.8	3.1	0.08	0.6
40-119.9	20-700	7.1	4.7	0.1	0.8
120-999.9	35-1000	9.5	6.1	0.15	0.8

KDV

Standard materials

Seals material: filling PTFE

V-ring: corrosion-resistant spring

Application scope

Used for working conditions with single acting, high-pressure, static sealing, and pressure outside. Widely used in various static and slow dynamic sealing situations, it has good sealing effect on lighter gases, refrigerants, and vacuum, and can also be used in situations with unsatisfied surface finish.

Features

- Good sealing ability in gas and fluid applications
- High initial sealing force and good leak resistance
- Can be used for large sizes without installation tools
- Can adapt to rapid temperature changes
- Good sealing ability on unsatisfied surfaces
- Unlimited storage period

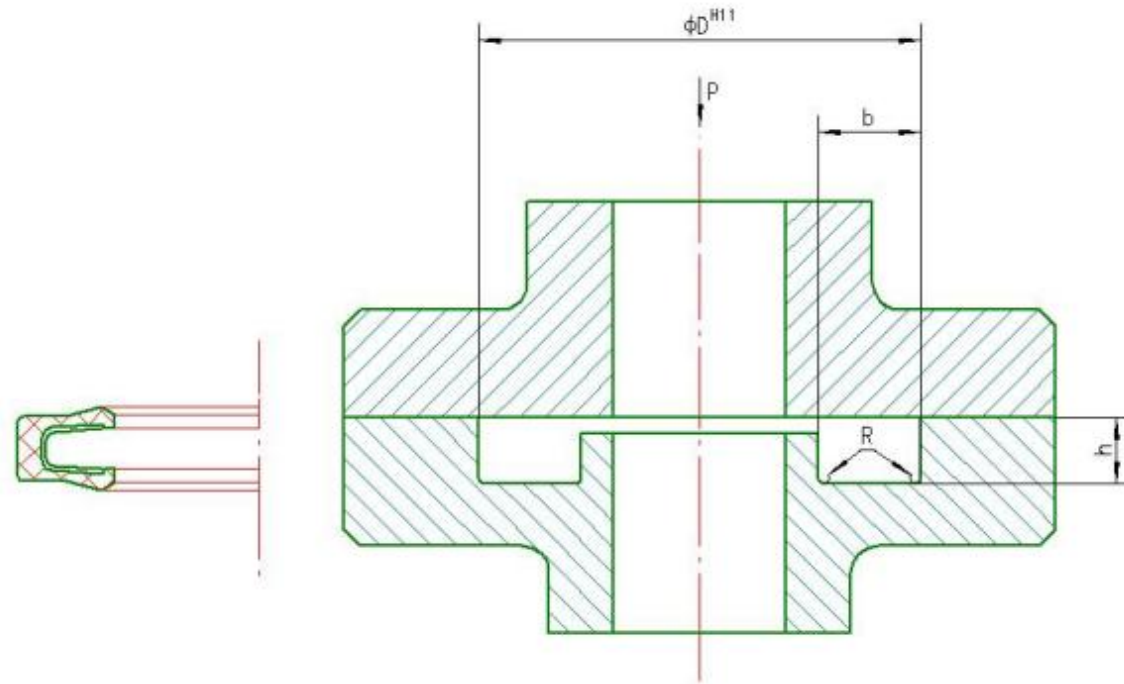
Operating conditions

Speed: reciprocating motion≤ 15m/s

Pressure range: 0-45Mpa

Temperature: -70℃ +260℃

Section view



Groove Size

KDV Outboard Seal					
Outer diameter of groove D^{H11}		Groove width b	Groove depth		Radius R
Standard range	Applicable range	min.	h	Tol.	max.
10-13.9	10-40	2.4	1.45	0.03	0.4
14-24.9	13-200	3.6	2.25	0.05	0.4
25-45.9	18-400	4.8	3.1	0.08	0.6
46-124.9	28-700	7.1	4.7	0.1	0.8
125-999.9	45-1000	9.5	6.1	0.15	0.8
1000-1500	110-1500	15	9.5	0.2	0.8

ZXZM

Standard materials

Seals material: filling PTFE

V-ring: corrosion-resistant spring

Application scope

The rotary plug sealing ring is unidirectional sealing ring used at the rotating shaft.

Widely used in various hydraulic systems. In addition, due to the good compatibility of seals and springs with relative materials, they are also widely used in the chemical, pharmaceutical, and food industries.

Features

- Used for rotary, reciprocating and static sealing applications
- Good scraping effect
- No crawling operation, used for precision control
- Good wear resistance performance and dimensional stability
- Can adapt to rapid temperature changes
- No contamination to the medium when in contact with food, pharmaceuticals
- Can be disinfected
- Unlimited storage period

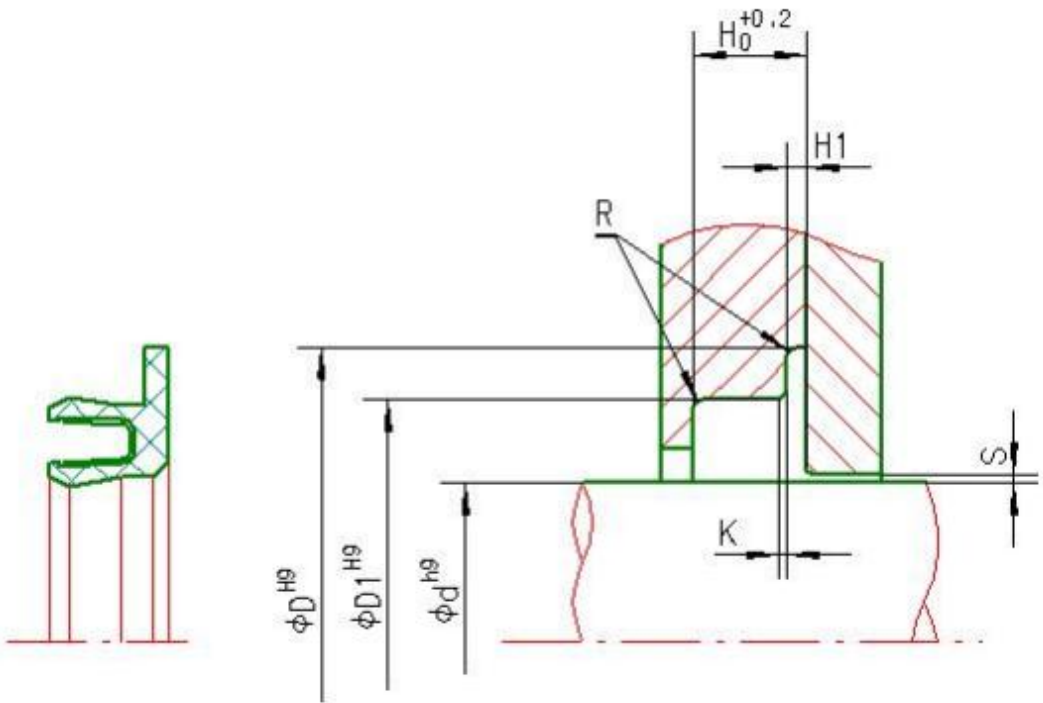
Operating conditions

Speed: reciprocating motion ≤ 2m/s

Pressure range: 0-15Mpa

Temperature: -70℃ +260℃

Section view



Groove Size

Rotary plug seals								
Diameter of Piston rod	Groove dia.		Groove width	Radius	Import chamfer	Max Radial clearance S		
d h9	D ₁ H9	D H9	H+0.2	R	K	2MPa	10MPa	20MPa
5.0-19.9	d+5.0	d+9.0	3.6	0.8	0.3	0.25	0.15	0.1
20.0-39.9	d+7.0	d+12.5	4.8	1.1	0.4	0.35	0.2	0.15
40.0-399.9	d+10.5	d+17.5	7.1	1.4	0.5	0.5	0.25	0.2
400.0-999.9	d+14.0	d+22.0	9.5	1.6	0.6	0.6	0.3	0.25

ZXZM				
Diameter of Piston rod	Groove dia.		Groove width	Art.No.
d h9	D ₁ H9	D H9	H+0.2	
5	10	14	3.6	FS-ZXZM 05
6	11	15	3.6	FS-ZXZM 06
8	13	17	3.6	FS-ZXZM 08
10	15	19	3.6	FS-ZXZM 10
12	17	21	3.6	FS-ZXZM 12
14	19	23	3.6	FS-ZXZM 14
15	20	24	3.6	FS-ZXZM 15
16	21	25	3.6	FS-ZXZM 16
18	23	27	3.6	FS-ZXZM 18
20	27	32.5	4.8	FS-ZXZM 20
22	29	34.5	4.8	FS-ZXZM 22
25	32	37.5	4.8	FS-ZXZM 25
28	35	40.5	4.8	FS-ZXZM 28
30	37	42.5	4.8	FS-ZXZM 30
32	39	44.5	4.8	FS-ZXZM 32
35	42	47.5	4.8	FS-ZXZM 35
36	43	48.5	4.8	FS-ZXZM 36
40	50.5	57.5	7.1	FS-ZXZM 40
42	52.5	59.5	7.1	FS-ZXZM 42
45	55.5	62.5	7.1	FS-ZXZM 45
48	58.5	65.5	7.1	FS-ZXZM 48
50	60.5	67.5	7.1	FS-ZXZM 50
52	62.5	69.5	7.1	FS-ZXZM 52
55	65.5	72.5	7.1	FS-ZXZM 55
56	66.5	73.5	7.1	FS-ZXZM 56
60	70.5	77.5	7.1	FS-ZXZM 60
63	73.5	80.5	7.1	FS-ZXZM 63
65	75.5	82.5	7.1	FS-ZXZM 65
70	80.5	87.5	7.1	FS-ZXZM 70
75	85.5	92.5	7.1	FS-ZXZM 75
80	90.5	97.5	7.1	FS-ZXZM 80
85	95.5	102.5	7.1	FS-ZXZM 85
90	100.5	107.5	7.1	FS-ZXZM 90
95	105.5	112.5	7.1	FS-ZXZM 95
100	110.5	117.5	7.1	FS-ZXZM 100
105	115.5	122.5	7.1	FS-ZXZM 105
110	120.5	127.5	7.1	FS-ZXZM 110
115	125.5	132.5	7.1	FS-ZXZM 115
120	130.5	137.5	7.1	FS-ZXZM 120
125	135.5	142.5	7.1	FS-ZXZM 125



ZXZM				
Diameter of Piston rod	Groove dia.		Groove width	Art.No.
d h9	D ₁ H9	D H9	H+0.2	
130	140.5	147.5	7.1	FS-ZXZM 130
135	145.5	152.5	7.1	FS-ZXZM 135
140	150.5	157.5	7.1	FS-ZXZM 140
150	160.5	167.5	7.1	FS-ZXZM 150
160	170.5	177.5	7.1	FS-ZXZM 160
170	180.5	187.5	7.1	FS-ZXZM 170
180	190.5	197.5	7.1	FS-ZXZM 180
190	200.5	207.5	7.1	FS-ZXZM 190
200	210.5	217.5	7.1	FS-ZXZM 200
210	220.5	227.5	7.1	FS-ZXZM 210
220	230.5	237.5	7.1	FS-ZXZM 220
230	240.5	247.5	7.1	FS-ZXZM 230
240	250.5	257.5	7.1	FS-ZXZM 240
250	260.5	267.5	7.1	FS-ZXZM 250
280	290.5	297.5	7.1	FS-ZXZM 280
300	310.5	317.5	7.1	FS-ZXZM 300
320	330.5	337.5	7.1	FS-ZXZM 320
350	360.5	367.5	7.1	FS-ZXZM 350
360	370.5	377.5	7.1	FS-ZXZM 360
400	410.5	417.5	7.1	FS-ZXZM 400
420	434	442	9.5	FS-ZXZM 420
450	464	472	9.5	FS-ZXZM 450
480	494	502	9.5	FS-ZXZM 480
500	514	522	9.5	FS-ZXZM 500
600	614	622	9.5	FS-ZXZM 600
700	714	722	9.5	FS-ZXZM 700

KFSF

Standard materials

Seals material: filling PTFE

V-ring: corrosion-resistant spring

Application scope

Due to the good adaptability of seals and springs to corresponding materials, this seal can be applied in general hydraulic systems, as well as other wide industries such as chemical, pharmaceutical and food industries.

Features

- Chemicals and most fluids resistance
- Low friction coefficient
- No crawling, precise control
- Wear resistance and stable size
- Able to adapt to rapid temperature changes
- Will not contaminate food, drugs, and pharmaceutical liquids
- Wide temperature range adaptation
- Can be disinfected
- Unlimited storage period

Operating conditions

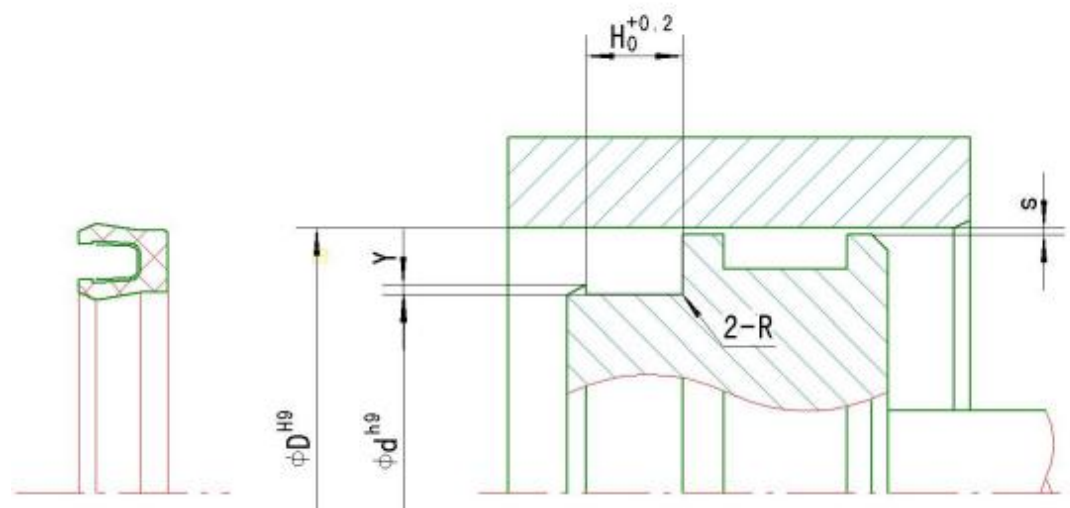
Speed: reciprocating motion $\leq 15\text{m/s}$

Rotational motion $\leq 1\text{m/s}$

Pressure range: 0-40Mpa

Temperature: -70°C $+260^{\circ}\text{C}$

Section view



Groove Size

Cylinder dia.	Groove bottom dia.	Groove Width	Radius	Stop height	Max Radial clearance S			
					2 MPa	10 Mpa	20 Mpa	40 Mpa
D H9	d h9	H+0.2	R	Y				
6.0-19.9	B-2.9	2.4	0.4	0.4	0.2	0.1	0.08	0.05
14.0-24.9	B-4.5	3.6	0.4	0.6	0.25	0.15	0.1	0.07
25-45.9	B-6.2	4.8	0.6	0.7	0.35	0.2	0.15	0.08
46.0-124.9	B-9.4	7.1	0.8	0.8	0.5	0.25	0.2	0.1
125.0-999.9	B-12.2	9.5	0.8	0.9	0.6	0.3	0.25	0.12

Cylinder dia.	Groove bottom dia.	Groove width	Art.No.
D H9	d h9	H+0.2	
6	3.1	2.4	FS-KFSF 06
8	5.1	2.4	FS-KFSF 08
10	7.1	2.4	FS-KFSF 10
12	9.1	2.4	FS-KFSF 12
15	9.5	3.6	FS-KFSF 15
16	10.5	3.6	FS-KFSF 16
18	11.5	3.6	FS-KFSF 18
20	13.5	3.6	FS-KFSF 20
22	15.5	3.6	FS-KFSF 22
25	17.5	3.6	FS-KFSF 25
28	18.8	4.8	FS-KFSF 28
30	21.8	4.8	FS-KFSF 30
32	23.8	4.8	FS-KFSF 32
35	25.8	4.8	FS-KFSF 35

Cylinder dia.	Groove bottom dia.	Groove width	Art.No.
D H9	d h9	H+0.2	
40	33.8	4.8	FS-KFSF 40
42	35.8	4.8	FS-KFSF 42
45	38.8	4.8	FS-KFSF 45
48	38.6	7.1	FS-KFSF 48
50	40.6	7.1	FS-KFSF 50
52	42.6	7.1	FS-KFSF 52
55	45.6	7.1	FS-KFSF 55
56	46.6	7.1	FS-KFSF 56
60	50.6	7.1	FS-KFSF 60
63	53.6	7.1	FS-KFSF 63
65	55.6	7.1	FS-KFSF 65
70	60.6	7.1	FS-KFSF 70
75	65.6	7.1	FS-KFSF 75
80	70.6	7.1	FS-KFSF 80
85	75.6	7.1	FS-KFSF 85
90	80.6	7.1	FS-KFSF 90
95	85.6	7.1	FS-KFSF 95
100	90.6	7.1	FS-KFSF 100
110	100.6	7.1	FS-KFSF 110
115	105.6	7.1	FS-KFSF 115
120	110.6	7.1	FS-KFSF 120
125	112.8	9.5	FS-KFSF 125
130	117.8	9.5	FS-KFSF 130
135	122.8	9.5	FS-KFSF 135
140	127.8	9.5	FS-KFSF 140
150	137.8	9.5	FS-KFSF 150
160	147.8	9.5	FS-KFSF 160
170	157.8	9.5	FS-KFSF 170
180	167.8	9.5	FS-KFSF 180
190	177.8	9.5	FS-KFSF 190
200	187.8	9.5	FS-KFSF 200
210	197.8	9.5	FS-KFSF 210
220	207.8	9.5	FS-KFSF 220
230	217.8	9.5	FS-KFSF 230
240	227.8	9.5	FS-KFSF 240
250	237.8	9.5	FS-KFSF 250
280	267.8	9.5	FS-KFSF 280
300	287.8	9.5	FS-KFSF 300
320	307.8	9.5	FS-KFSF 320
350	337.8	9.5	FS-KFSF 350
400	387.8	9.5	FS-KFSF 400



Cylinder dia.	Groove bottom dia.	Groove width	Art.No.
D H9	d h9	H+0.2	
420	407.8	9.5	FS-KFSF 420
450	437.8	9.5	FS-KFSF 450
480	467.8	9.5	FS-KFSF 480
500	487.8	9.5	FS-KFSF 500

ZFSF

Standard materials

Seals material: filling PTFE

V-ring: corrosion-resistant spring

Application scope

Due to the good adaptability of seals and springs to corresponding materials, this seal can be applied in general hydraulic systems, as well as other wide industries such as chemical, pharmaceutical and food industries.

Features

- Chemicals and most fluids resistance
- Low friction coefficient
- No crawling, precise control
- Wear resistance and stable size
- Able to adapt to rapid temperature changes
- Will not contaminate food, drugs, and pharmaceutical liquids
- Wide temperature range adaptation
- Can be disinfected
- Unlimited storage period

Operating conditions

Speed: reciprocating motion $\leq 15\text{m/s}$

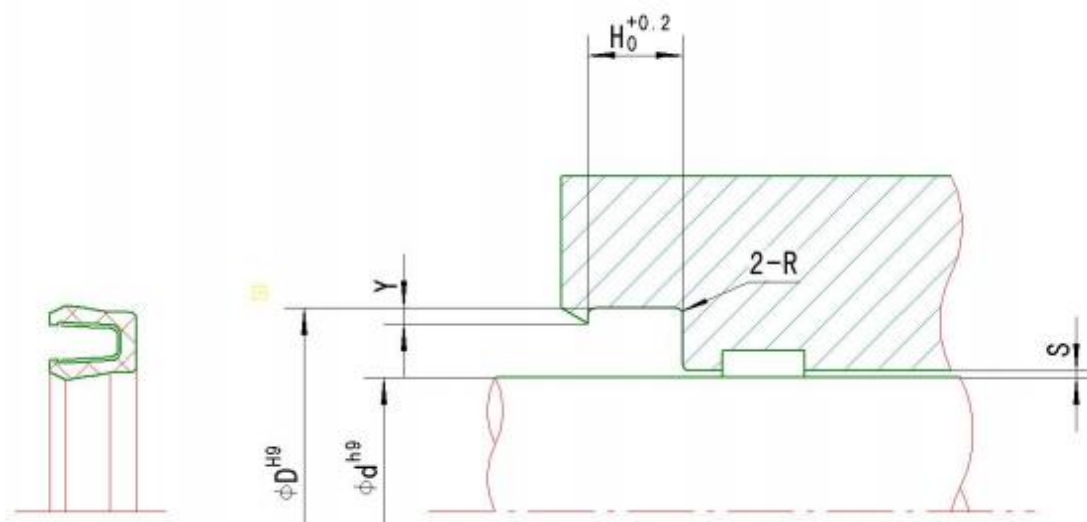
Rotational motion $\leq 1\text{m/s}$

Pressure range: 0-40Mpa

Temperature: -70°C $+260^{\circ}\text{C}$



Section view



Groove Size

Diameter of Piston rod	Groove dia.	Groove Width	Radius	Stop heig ht	Max Radial clearance S			
					2 MPa	10 Mpa	20 Mpa	40 Mpa
d h9	D H9	H+0.2	R	Y				
3.0-9.9	C+2.9	2.4	0.4	0.4	0.2	0.1	0.08	0.05
10.0-19.9	C+4.5	3.6	0.4	0.6	0.6	0.25	0.1	0.07
20.0-39.9	C+6.2	4.8	0.6	0.7	0.7	0.35	0.15	0.08
40.0-119.9	C+9.4	7.1	0.8	0.8	0.8	0.5	0.2	0.1
120.0-630.0	C+12.2	9.5	0.8	0.8	0.8	0.6	0.25	0.12

Diameter of Piston rod	Groove dia.	Groove width	Art.No.
d h9	D H9	H+0.2	
3	5.9	2.4	FS-ZFSF 03
4	6.9	2.4	FS-ZFSF 04
5	7.9	2.4	FS-ZFSF 05
6	8.9	2.4	FS-ZFSF 06
8	10.9	2.4	FS-ZFSF 08
10	14.5	3.6	FS-ZFSF 10
12	16.5	3.6	FS-ZFSF 12
14	18.5	3.6	FS-ZFSF 14
15	19.5	3.6	FS-ZFSF 15
16	20.5	3.6	FS-ZFSF 16
18	22.5	3.6	FS-ZFSF 18
20	26.2	4.8	FS-ZFSF 20
22	28.2	4.8	FS-ZFSF 22

Diameter of Piston rod	Groove dia.	Groove width	Art.No.
d h9	D H9	H+0.2	
25	31.2	4.8	FS-ZFSF 25
28	34.2	4.8	FS-ZFSF 28
30	36.2	4.8	FS-ZFSF 30
32	38.2	4.8	FS-ZFSF 32
35	41.2	4.8	FS-ZFSF 35
36	42.2	4.8	FS-ZFSF 36
40	49.4	7.1	FS-ZFSF 40
42	51.4	7.1	FS-ZFSF 42
45	54.4	7.1	FS-ZFSF 45
48	57.4	7.1	FS-ZFSF 48
50	59.4	7.1	FS-ZFSF 50
52	61.4	7.1	FS-ZFSF 52
55	64.4	7.1	FS-ZFSF 55
56	65.4	7.1	FS-ZFSF 56
60	69.4	7.1	FS-ZFSF 60
63	72.4	7.1	FS-ZFSF 63
65	74.4	7.1	FS-ZFSF 65
70	79.4	7.1	FS-ZFSF 70
75	84.4	7.1	FS-ZFSF 75
80	89.4	7.1	FS-ZFSF 80
85	94.4	7.1	FS-ZFSF 85
90	99.4	7.1	FS-ZFSF 90
95	104.4	7.1	FS-ZFSF 95
100	109.4	7.1	FS-ZFSF 100
105	114.4	7.1	FS-ZFSF 105
110	119.4	7.1	FS-ZFSF 110
115	124.4	7.1	FS-ZFSF 115
120	132.2	9.5	FS-ZFSF 120
125	137.2	9.5	FS-ZFSF 125
130	142.2	9.5	FS-ZFSF 130
135	147.2	9.5	FS-ZFSF 135
140	152.2	9.5	FS-ZFSF 140
150	162.2	9.5	FS-ZFSF 150
160	172.2	9.5	FS-ZFSF 160
170	182.2	9.5	FS-ZFSF 170
180	192.2	9.5	FS-ZFSF 180
190	202.2	9.5	FS-ZFSF 190
200	212.2	9.5	FS-ZFSF 200
210	222.2	9.5	FS-ZFSF 210
220	232.2	9.5	FS-ZFSF 220
230	242.2	9.5	FS-ZFSF 230

Diameter of Piston rod	Groove dia.	Groove width	Art.No.
d h9	D H9	H+0.2	
240	252.2	9.5	FS-ZFSF 240
250	262.2	9.5	FS-ZFSF 250
280	292.2	9.5	FS-ZFSF 280
300	312.2	9.5	FS-ZFSF 300
320	332.2	9.5	FS-ZFSF 320
350	362.2	9.5	FS-ZFSF 350
360	372.2	9.5	FS-ZFSF 360
400	412.2	9.5	FS-ZFSF 400

FCW

Standard materials

Sealing ring: polyurethane

Skeleton: 08F

Application scope

Suitable for hinge pins and bushings, swinging and rotating movements.

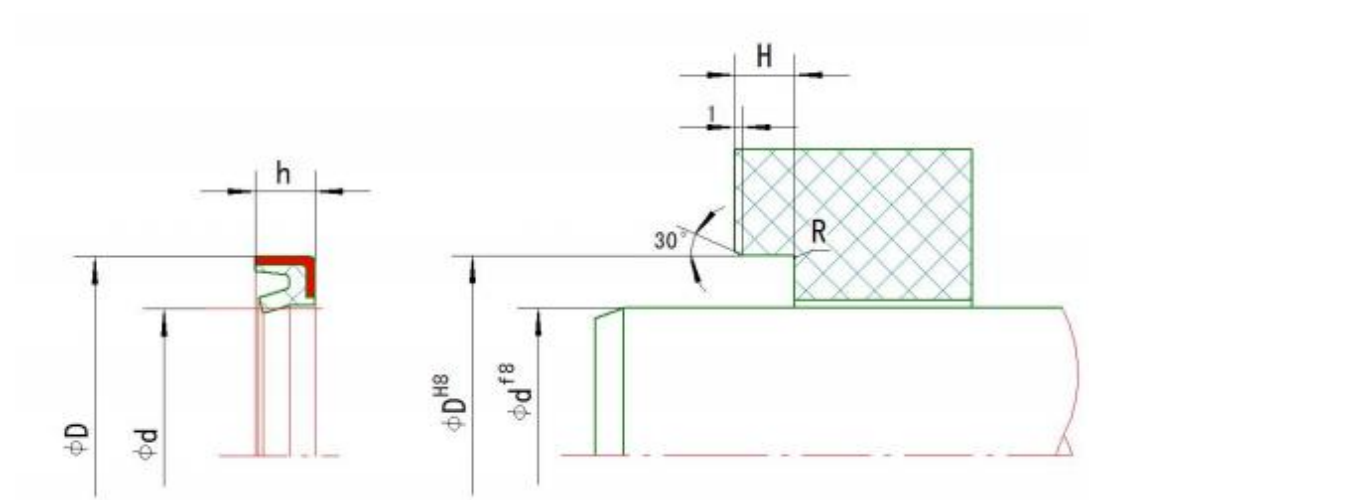
Features

- Prevent dust from entering, protect equipment and maintain sealing performance
- Able to work under harsh dust conditions
- Has good overflow effect
- Easy to install

Operating conditions

Temperature: -35℃ +100℃

Section view



Groove Size

FCW						
d	Ød	ØD	D	h	H	Art.No.
16	16	24	24	2.8	2.8	FS-FCW 1624
20	20	28	28	2.8	2.8	FS-FCW 2028
25	25	35	35	4	4	FS-FCW 2535
25	25	37	37	4	4	FS-FCW 2537
30	30	40	40	4	4	FS-FCW 3040
35	35	45	45	4	4	FS-FCW 3545
40	40	50	50	4	4	FS-FCW 4050
40	40	50	50	5	5	FS-FCW 4050-1
45	45	55	55	4	4	FS-FCW 4555
45	45	55	55	5	5	FS-FCW 4555-1
45	45	55	55	6	6	FS-FCW 4555-2
50	50	60	60	4	4	FS-FCW 5060
50	50	60	60	4.5	4.5	FS-FCW 5060-1
50	50	60	60	5	5	FS-FCW 5060-2
50	50	60	60	6	6	FS-FCW 5060-3
50	50	63	63	8	8	FS-FCW 5063
50	50	65	65	5	5	FS-FCW 5065
50	50	65	65	6	6	FS-FCW 5065-1
50	50	65	65	7.5	7.5	FS-FCW 5065-2
50	50	65	65	5	5	FS-FCW 5065-3
55	55	68	68	4	4	FS-FCW 5568
55	55	70	70	5	5	FS-FCW 5570
55	55	70	70	6	6	FS-FCW 5570-1
55	55	70	70	7.5	7.5	FS-FCW 5570-2
60	60	73	73	8	8	FS-FCW 6073
60	60	75	75	4	4	FS-FCW 6075
60	60	75	75	5	5	FS-FCW 6075-1
60	60	75	75	6	6	FS-FCW 6075-2
60	60	75	75	8	8	FS-FCW 6075-3
63	63	77	77	8	8	FS-FCW 6377
65	65	80	80	5	5	FS-FCW 6580
65	65	80	80	8	8	FS-FCW 6580-1
70	70	80	80	9	9	FS-FCW 7080
70	70	83	83	8	8	FS-FCW 7083
70	70	85	85	5	5	FS-FCW 7085
70	70	85	85	8	8	FS-FCW 7085
71	71	85	85	6	6	FS-FCW 7185
75	75	90	90	5	5	FS-FCW 7590
75	75	90	90	4	4	FS-FCW 7590-1
80	80	93	93	8	8	FS-FCW 8093

FCW						
d	Ød	ØD	D	h	H	Art.No.
80	80	95	95	5	5	FS-FCW 8095
80	80	95	95	6	6	FS-FCW 8094-1
80	80	100	100	5	5	FS-FCW 80100
85	85	100	100	4	4	FS-FCW 85100
85	85	100	100	8	8	FS-FCW 85100-1
90	90	105	105	5	5	FS-FCW 90105
90	90	105	105	6	6	FS-FCW 90105-1
90	90	110	110	5	5	FS-FCW 90110
90	90	110	110	4	4	FS-FCW 90110-1
100	100	115	115	8	8	FS-FCW 100115
100	100	115	115	7	7	FS-FCW 100115-2
100	100	120	120	10	10	FS-FCW 100120
105	100	125	125	14	4	FS-FCW 105125
105	105	120	120	17	7	FS-FCW 105120
110	105	120	120	17	7	FS-FCW 110120
110	110	125	125	4	4	FS-FCW 110125
110	110	125	125	8	8	FS-FCW 110125-1
110	110	130	130	10	10	FS-FCW 110130
120	120	140	140	10	10	FS-FCW 120140
125	125	140	140	8	8	FS-FCW 125140
140	140	155	155	8	8	FS-FCW 140155
140	140	170	170	10	10	FS-FCW 140170
145	145	160	160	8	8	FS-FCW 145160
150	150	180	180	10	10	FS-FCW 150180
160	160	180	180	8	8	FS-FCW 160180
160	160	190	190	8	8	FS-FCW 160190
160	160	190	190	13	13	FS-FCW 160190-1
170	170	200	200	13	13	FS-FCW 170200
175	175	205	205	8	8	FS-FCW 175205
180	180	200	200	8	8	FS-FCW 180200
180	180	210	210	13	13	FS-FCW 180210
190	190	210	210	8	8	FS-FCW 190210
200	200	220	220	8	8	FS-FCW 200220
200	200	230	230	8	8	FS-FCW 200230
200	200	230	230	13	13	FS-FCW 200230-1

FCV

Standard materials

Sealing ring:nitrile rubber

Skeleton:08F

Application scope

Suitable for hinge pins and bushings, swinging and rotating movements.

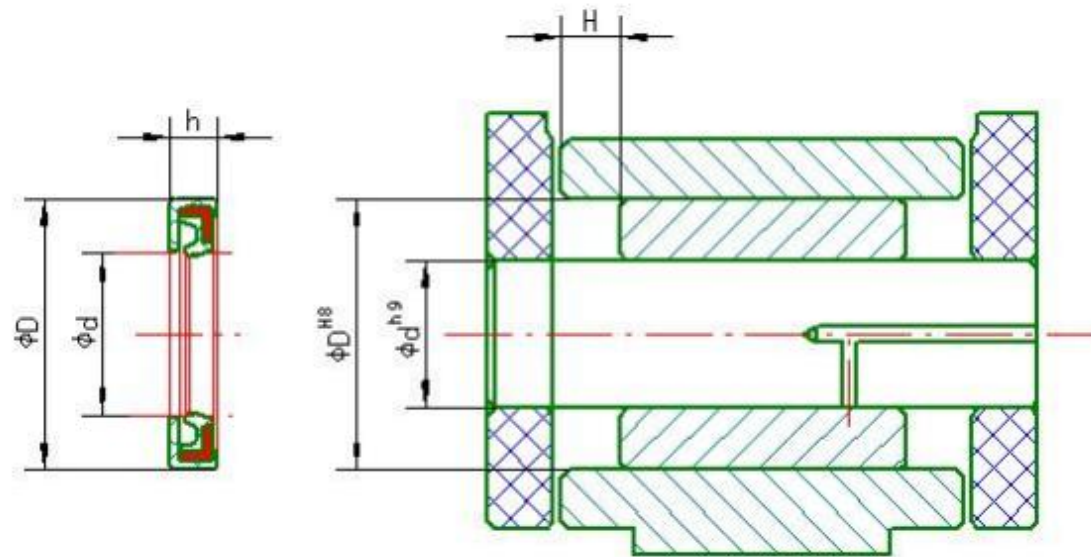
Features

- Prevent dust from entering, protect equipment and maintain sealing performance
- Able to work under harsh dust conditions
- Has good overflow effect
- Lip design can reduce torque
- With metal sheet protection, it can reduce lip wear and tear
- Easy to install

Operating conditions

Temperature: -35℃ +100℃

Section view



Groove Size

Type FCV							
Nominal code	d		D		Corresponding Shaft diameter d		Art.No.
40	39.2	± 0.35	50	$\begin{matrix} +0.1 \\ 3 \\ +0.0 \\ 7 \end{matrix}$	40	$\begin{matrix} -0.025 \\ -0.064 \end{matrix}$	FS-FCV 40
45	44		55	$\begin{matrix} +0.1 \\ 6 \\ +0.0 \\ 8 \end{matrix}$	45	$\begin{matrix} -0.030 \\ -0.076 \end{matrix}$	FS-FCV 45
50	49		60		50		FS-FCV 50
55	54		68		55		FS-FCV 55
60	59		75		60		FS-FCV 60
65	64		80	$\begin{matrix} +0.1 \\ 9 \\ +0.1 \\ 0 \end{matrix}$	65	$\begin{matrix} -0.030 \\ -0.090 \end{matrix}$	FS-FCV 65
70	69		85		70		FS-FCV 70
75	74		90		75		FS-FCV 75
80	79		95		80		FS-FCV 80
85	84		100		85		FS-FCV 85
90	89		105		90		FS-FCV 90
95	94		110		95		FS-FCV 95
100	99		115		100		FS-FCV 100
110	109		125		110		FS-FCV 110
120	119		135		120		FS-FCV 120

VA

Standard materials

Seals material: nitrile rubber or fluorine rubber

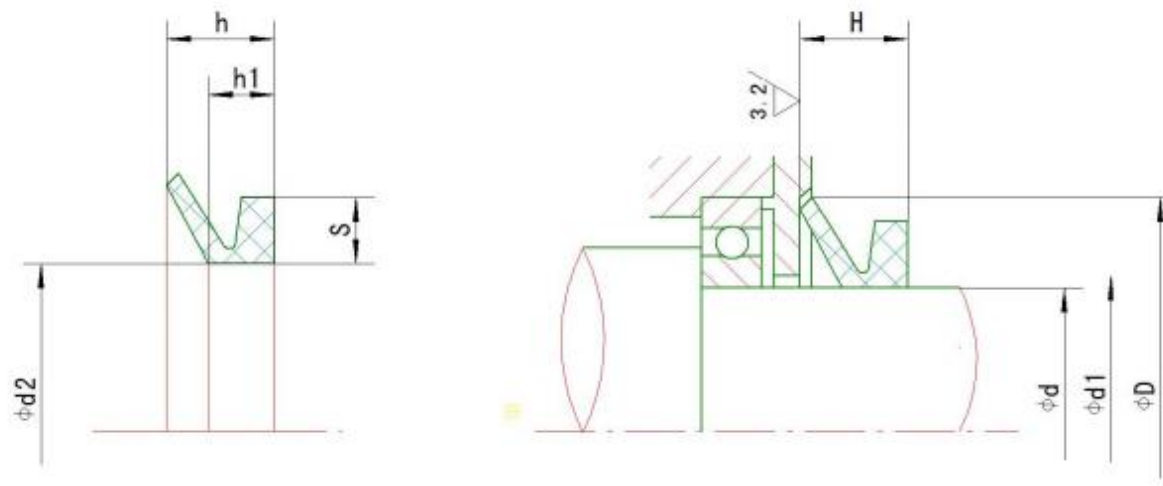
Application scope

Mainly used for relative rotation end sealing, to prevent outside impurities such as water, dust, grease from entering bearing parts or sealing systems.

Operating conditions

Temperature: -35°C $+250^{\circ}\text{C}$

Section view



Product size					Groove Size				Art.No.
d	h	H1	S	d2	d	d1	D	H	
43-48	9	5.5	5.5	40	43-48	d+2	d+15	7.0±1.0	FS-VA 1
48-53	9	5.5	5.5	45	48-53	d+2	d+15	7.0±1.0	FS-VA 2
53-58	9	5.5	5.5	49	53-58	d+2	d+15	7.0±1.0	FS-VA 3
58-63	9	5.5	5.5	54	58-63	d+2	d+15	7.0±1.0	FS-VA 4
63-68	9	5.5	5.5	58	63-68	d+2	d+15	7.0±1.0	FS-VA 5
68-73	11	6.8	6.8	63	68-73	d+3	d+18	9.0±1.2	FS-VA 6
73-78	11	6.8	6.8	67	73-78	d+3	d+18	9.0±1.2	FS-VA 7
78-83	11	6.8	6.8	72	78-83	d+3	d+18	9.0±1.2	FS-VA 8
83-88	11	6.8	6.8	76	83-88	d+3	d+18	9.0±1.2	FS-VA 9
88-93	11	6.8	6.8	81	88-93	d+3	d+18	9.0±1.2	FS-VA 10
93-98	11	6.8	6.8	85	93-98	d+3	d+18	9.0±1.2	FS-VA 11
98-105	11	6.8	6.8	90	98-105	d+3	d+18	9.0±1.2	FS-VA 12
105-115	12.8	7.9	7.9	99	105-115	d+4	d+21	10.5±1.5	FS-VA 13
115-125	12.8	7.9	7.9	108	115-125	d+4	d+21	10.5±1.5	FS-VA 14
125-135	12.8	7.9	7.9	117	125-135	d+4	d+21	10.5±1.5	FS-VA 15
135-145	12.8	7.9	7.9	126	135-145	d+4	d+21	10.5±1.5	FS-VA 16
145-155	12.8	7.9	7.9	135	145-155	d+4	d+21	10.5±1.5	FS-VA 17
155-165	14.5	9	8	144	155-165	d+4	d+24	12±1.8	FS-VA 18
165-175	14.5	9	8	153	165-175	d+4	d+24	12±1.8	FS-VA 19
175-185	14.5	9	8	162	175-185	d+4	d+24	12±1.8	FS-VA 20
185-195	14.5	9	8	171	185-195	d+4	d+24	12±1.8	FS-VA 21
195-210	14.5	9	8	180	195-210	d+4	d+24	12±1.8	FS-VA 22
190-210	25	14.3	15	180	190-210	d+10	d+45	20±4.0	FS-VA 23
210-235	25	14.3	15	198	210-235	d+10	d+45	20±4.0	FS-VA 24
235-265	25	14.3	15	225	235-265	d+10	d+45	20±4.0	FS-VA 25
265-290	25	14.3	15	247	265-290	d+10	d+45	20±4.0	FS-VA 26
290-310	25	14.3	15	270	290-310	d+10	d+45	20±4.0	FS-VA 27
310-335	25	14.3	15	292	310-335	d+10	d+45	20±4.0	FS-VA 28
335-365	25	14.3	15	315	335-365	d+10	d+45	20±4.0	FS-VA 29
365-390	25	14.3	15	337	365-390	d+10	d+45	20±4.0	FS-VA 30
390-430	25	14.3	15	360	390-430	d+10	d+45	20±4.0	FS-VA 31
430-480	25	14.3	15	405	430-480	d+10	d+45	20±4.0	FS-VA 32



Product size					Groove Size				Art.No.
d	h	H1	S	d2	d	d1	D	H	
480-530	25	14.3	15	450	480-530	d+10	d+45	20±4.0	FS-VA 33
530-580	25	14.3	15	495	530-580	d+10	d+45	20±4.0	FS-VA 34
580-630	25	14.3	15	540	580-630	d+10	d+45	20±4.0	FS-VA 35
630-665	25	14.3	15	600	630-665	d+10	d+45	20±4.0	FS-VA 36
665-705	25	14.3	15	630	665-705	d+10	d+45	20±4.0	FS-VA 37
705-745	25	14.3	15	670	705-745	d+10	d+45	20±4.0	FS-VA 38
745-785	25	14.3	15	705	745-785	d+10	d+45	20±4.0	FS-VA 39
785-830	25	14.3	15	745	785-830	d+10	d+45	20±4.0	FS-VA 40
830-875	25	14.3	15	785	830-875	d+10	d+45	20±4.0	FS-VA 41
875-920	25	14.3	15	825	875-920	d+10	d+45	20±4.0	FS-VA 42
920-965	25	14.3	15	865	920-965	d+10	d+45	20±4.0	FS-VA 43

VS

Standard materials

Seals material: nitrile rubber or fluorine rubber

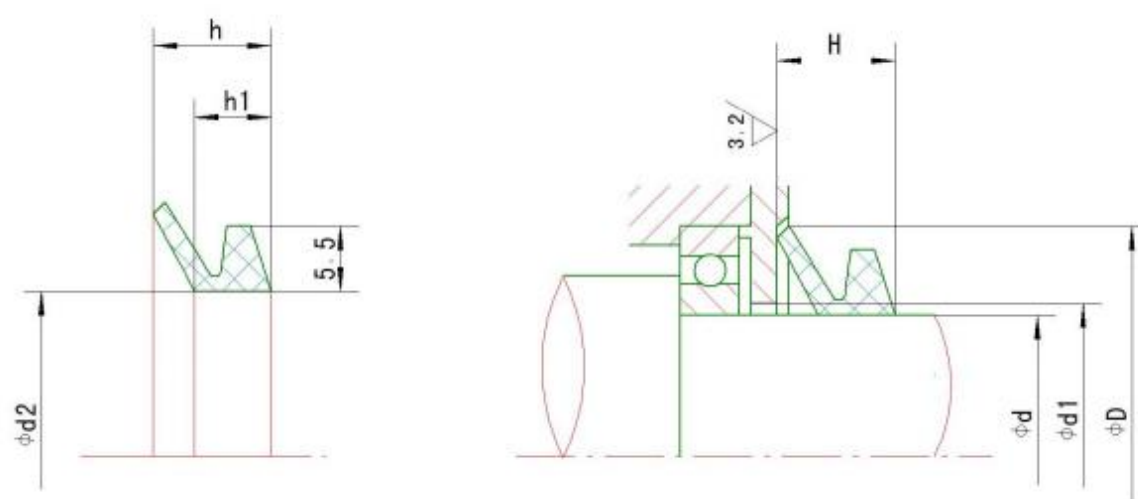
Application scope

Mainly used for relative rotation end sealing, to prevent outside impurities such as water, dust, grease from entering bearing parts or sealing systems.

Operating conditions

Temperature: -35℃ +250℃

Section view



Product size					Groove Size				Art.No.
d	h	H1	S	d2	d	d1	D	H	
11.5-13.5	7.7	5.6	3	10.5	11.5-13.5	d+1	d+9	6.7±0.6	FS-VS 1
13.5-15.5	7.7	5.6	3	12.5	13.5-15.5	d+1	d+9	6.7±0.6	FS-VS 2
15.5-17.5	7.7	5.6	3	14	15.5-17.5	d+1	d+9	6.7±0.6	FS-VS 3
17.5-19.0	7.7	5.6	3	16	17.5-19.0	d+1	d+9	6.7±0.6	FS-VS 4
19.0-21.0	10.5	7.9	4	18	19.0-21.0	d+2	d+12	9.0±0.8	FS-VS 5
21.0-24.0	10.5	7.9	4	20	21.0-24.0	d+2	d+12	9.0±0.8	FS-VS 6
24.0-27.0	10.5	7.9	4	22	24.0-27.0	d+2	d+12	9.0±0.8	FS-VS 7
27.0-29.0	10.5	7.9	4	25	27.0-29.0	d+2	d+12	9.0±0.8	FS-VS 8
29.0-31.0	10.5	7.9	4	27	29.0-31.0	d+2	d+12	9.0±0.8	FS-VS 9
31.0-33.0	10.5	7.9	4	29	31.0-33.0	d+2	d+12	9.0±0.8	FS-VS 10
33.0-36.0	10.5	7.9	4	31	33.0-36.0	d+2	d+12	9.0±0.8	FS-VS 11
36.0-38.0	10.5	7.9	4	34	36.0-38.0	d+2	d+12	9.0±0.8	FS-VS 12
38.0-43.0	13	9.5	5	36	38.0-43.0	d+2	d+15	11.0±1.0	FS-VS 13
43.0-48.0	13	9.5	5	40	43.0-48.0	d+2	d+15	11.0±1.0	FS-VS 14
48.0-53.0	13	9.5	5	45	48.0-53.0	d+2	d+15	11.0±1.0	FS-VS 15
53.0-58.0	13	9.5	5	49	53.0-58.0	d+2	d+15	11.0±1.0	FS-VS 16
58.0-63.0	13	9.5	5	54	58.0-63.0	d+2	d+15	11.0±1.0	FS-VS 17
63.0-68.0	13	9.5	5	58	63.0-68.0	d+2	d+15	11.0±1.0	FS-VS 18
68.0-73.0	15.5	11.3	6	63	68.0-73.0	d+3	d+18	13.5±1.2	FS-VS 19
73.0-78.0	15.5	11.3	6	67	73.0-78.0	d+3	d+18	13.5±1.2	FS-VS 20
78.0-83.0	15.5	11.3	6	72	78.0-83.0	d+3	d+18	13.5±1.2	FS-VS 21
83.0-88.0	15.5	11.3	6	76	83.0-88.0	d+3	d+18	13.5±1.2	FS-VS 22
88.0-93.0	15.5	11.3	6	81	88.0-93.0	d+3	d+18	13.5±1.2	FS-VS 23
93.0-98.0	15.5	11.3	6	85	93.0-98.0	d+3	d+18	13.5±1.2	FS-VS 24
98.0-105.0	15.5	11.3	6	90	98.0-105.0	d+3	d+18	13.5±1.2	FS-VS 25
105.0-115.0	18	13.1	7	99	105.0-115.0	d+4	d+21	15.5±1.5	FS-VS 26
115.0-125.0	18	13.1	7	108	115.0-125.0	d+4	d+21	15.5±1.5	FS-VS 27
125.0-135.0	18	13.1	7	117	125.0-135.0	d+4	d+21	15.5±1.5	FS-VS 28
135.0-145.0	18	13.1	7	126	135.0-145.0	d+4	d+21	15.5±1.5	FS-VS 29
145.0-155.0	18	13.1	7	135	145.0-155.0	d+4	d+21	15.5±1.5	FS-VS 30
155.0-165.0	20.5	15	8	144	155.0-165.0	d+4	d+21	18.0±1.8	FS-VS 31
165.0-175.0	20.5	15	8	153	165.0-175.0	d+4	d+21	18.0±1.8	FS-VS 32
175.0-185.0	20.5	15	8	162	175.0-185.0	d+4	d+21	18.0±1.8	FS-VS 33
185.0-195.0	20.5	15	8	171	185.0-195.0	d+4	d+21	18.0±1.8	FS-VS 34
195.0-210.0	20.5	15	8	180	195.0-210.0	d+4	d+21	18.0±1.8	FS-VS 35

XZC

Standard materials

Seals material: nitrile rubber or fluorine rubber+Skeleton+ spring

Application scope

Applied to the rotating bearing seat, generating relative motion with the rotating shaft. Used for sealing in oily and dusty environments.

Features

- Reliable sealing performance
- Easy to install
- Beneficial for maintenance

Operating conditions

Speed: $\leq 6\text{m/s}$

Temperature: -35°C $+250^{\circ}\text{C}$

Pressure range: 0-0.5Mpa

Section view



Groove Size

size			Art.No.
Shaft diameter	Outside diameter	Width	
d	D	b	
7	20	7	FS-XZC 0720
8	22	7	FS-XZC 0822
8	25	8	FS-XZC 0825
8	34	8	FS-XZC 0834
9	22	7	FS-XZC 0922
9	28	8	FS-XZC 0928
10	20	7	FS-XZC 1020
10	25	7	FS-XZC 1025
10	28	8	FS-XZC 1028
11	25	7	FS-XZC 1125
11	30	10	FS-XZC 1130
12	22	7	FS-XZC 1222
12	23	8	FS-XZC 1223
12	25	7	FS-XZC 1225
12	28	7	FS-XZC 1228
12	30	9	FS-XZC 1230
12	32	7	FS-XZC 1232
13	25	7	FS-XZC 1325
13	28	7	FS-XZC 1328
13	30	8	FS-XZC 1330
14	25	7	FS-XZC 1425
14	28	7	FS-XZC 1428
14	28	11	FS-XZC 1428-1
14	32	9	FS-XZC 1432
15	25	7	FS-XZC 1525
15	30	7	FS-XZC 1530
15	30	10	FS-XZC 1530-1
15	32	9	FS-XZC 1532
15	35	7	FS-XZC 1535
15	35	8	FS-XZC 1535-1
16	26	7	FS-XZC 1626
16	28	7	FS-XZC 1628
16	30	7	FS-XZC 1630
16	35	9	FS-XZC 1635
17	28	6	FS-XZC 1728
17	30	7	FS-XZC 1730
17	30	8	FS-XZC 1730
17	32	7	FS-XZC 1732

size			Art.No.
Shaft diameter	Outside diameter	Width	
d	D	b	
17	32	8	FS-XZC 1732-1
17	35	7	FS-XZC 1735
17	35	8	FS-XZC 1735-1
17	35	10	FS-XZC 1735-2
17	38	7	FS-XZC 1738
17	40	9	FS-XZC 1740
18	30	8	FS-XZC 1830
18	32	7	FS-XZC 1832
18	35	8	FS-XZC 1835
18	35	9	FS-XZC 1835-1
18	38	7	FS-XZC 1838
19	32	8	FS-XZC 1932
19	35	7	FS-XZC 1935
19	35	8	FS-XZC 1935-1
19	36	7	FS-XZC 1936
19	38	7	FS-XZC 1938
19	38	10	FS-XZC 1938-1
20	30	7	FS-XZC 2030
20	32	6	FS-XZC 2032
20	32	8	FS-XZC 2032-1
20	34	7	FS-XZC 2034
20	35	7	FS-XZC 2035
20	35	8	FS-XZC 2035-1
20	35	10	FS-XZC 2035-2
20	36	7	FS-XZC 2036
20	37	7	FS-XZC 2037
20	37	9	FS-XZC 2037-1
20	37	10	FS-XZC 2037-2
20	38	7	FS-XZC 2038
20	40	7	FS-XZC 2040
20	40	8	FS-XZC 2040-1
20	40	9	FS-XZC 2040-2
20	40	10	FS-XZC 2040-3
20	40	11	FS-XZC 2040-4
20	42	8	FS-XZC 2042
20	44	12	FS-XZC 2044
20	45	8	FS-XZC 2045
20	45	12	FS-XZC 2045-1
21	38	8	FS-XZC 2138
21	40	7	FS-XZC 2140

size			Art.No.
Shaft diameter	Outside diameter	Width	
d	D	b	
22	35	8	FS-XZC 2235
22	38	8	FS-XZC 2238-1
22	40	11	FS-XZC 2240
22	42	7	FS-XZC 2242
22	42	10	FS-XZC 2242-1
22	42	11	FS-XZC 2242-2
23	42	11	FS-XZC 2342
24	38	8	FS-XZC 2438
24	38	10	FS-XZC 2438-1
24	40	8	FS-XZC 2440
24	45	7	FS-XZC 2445
24	45	10	FS-XZC 2445-1
25	35	6	FS-XZC 2535
25	38	7	FS-XZC 2538
25	38	8	FS-XZC 2538-1
25	40	7	FS-XZC 2540
25	40	8	FS-XZC 2540-1
25	40	10	FS-XZC 2540-2
25	42	8	FS-XZC 2542
25	42	11	FS-XZC 2542-1
25	45	7	FS-XZC 2545
25	45	8	FS-XZC 2545-1
25	45	10	FS-XZC 2545-2
25	45	11	FS-XZC 2545-3
25	45	12	FS-XZC 2545-4
25	46	7	FS-XZC 2546
25	47	7	FS-XZC 2547
25	47	8	FS-XZC 2547-1
25	48	7	FS-XZC 2548
25	49	12	FS-XZC 2549
25	50	12	FS-XZC 2550
25	50	14	FS-XZC 2550-1
25	52	10	FS-XZC 2552
26	38	7	FS-XZC 2638
26	40	7	FS-XZC 2640
26	40	8	FS-XZC 2640-1
26	40	9	FS-XZC 2640-2
26	42	8	FS-XZC 2642
26	48	11	FS-XZC 2648
26	52	8	FS-XZC 2652

size			Art.No.
Shaft diameter	Outside diameter	Width	
d	D	b	
27	42	7	FS-XZC 2742
27	47	11	FS-XZC 2747
28	40	8	FS-XZC 2840
28	42	7	FS-XZC 2842
28	42	8	FS-XZC 2842-1
28	44	8	FS-XZC 2844
28	44	11	FS-XZC 2844-1
28	45	8	FS-XZC 2845
28	45	11	FS-XZC 2845-1
28	47	7	FS-XZC 2847
28	47	8	FS-XZC 2847-1
28	48	8	FS-XZC 2848
28	48	11	FS-XZC 2848-1
29	45	9	FS-XZC 2945
30	42	8	FS-XZC 3042
30	44	7	FS-XZC 3044
30	45	8	FS-XZC 3045
30	45	11	FS-XZC 3045-1
30	46	7	FS-XZC 3046
30	46	9	FS-XZC 3046-1
30	46	10	FS-XZC 3046-2
30	47	8	FS-XZC 3047
30	47	10	FS-XZC 3047-1
30	48	7	FS-XZC 3048
30	48	8	FS-XZC 3048-1
30	48	11	FS-XZC 3048-2
30	50	7	FS-XZC 3050
30	50	8	FS-XZC 3050-1
30	50	11	FS-XZC 3050-2
30	50	13	FS-XZC 3050-3
30	52	8	FS-XZC 3052
30	52	11	FS-XZC 3052-1
30	52	12	FS-XZC 3052-2
30	55	12	FS-XZC 3055
30	55	14	FS-XZC 3055-1
31	45	9	FS-XZC 3145
32	45	8	FS-XZC 3245
32	48	8	FS-XZC 3248
32	52	8	FS-XZC 3252
32	52	11	FS-XZC 3252-1

size			Art.No.
Shaft diameter	Outside diameter	Width	
d	D	b	
32	54	10	FS-XZC 3254
33	44	8	FS-XZC 3344
33	50	11	FS-XZC 3350
34	52	11	FS-XZC 3452
34	54	11	FS-XZC 3454
35	48	8	FS-XZC 3548
35	50	7	FS-XZC 3550
35	50	8	FS-XZC 3550-1
35	50	12	FS-XZC 3550-2
35	52	7	FS-XZC 3552
35	52	8	FS-XZC 3552-1
35	52	9	FS-XZC 3552-2
35	52	11	FS-XZC 3552-3
35	52	12	FS-XZC 3552-4
35	55	8	FS-XZC 3555
35	55	9	FS-XZC 3555-1
35	55	10	FS-XZC 3555-2
35	55	11	FS-XZC 3555-3
35	55	12	FS-XZC 3555-4
35	60	12	FS-XZC 3560
35	60	14	FS-XZC 3560-1
35	62	12	FS-XZC 3562
36	58	12	FS-XZC 3658
37	53	7	FS-XZC 3753
38	50	8	FS-XZC 3850
38	55	8	FS-XZC 3855
38	55	9	FS-XZC 3855-1
38	58	7	FS-XZC 3858
38	58	8	FS-XZC 3858-1
38	58	11	FS-XZC 3858-2
38	58	13	FS-XZC 3858-3
38	60	11	FS-XZC 3860
38	62	9	FS-XZC 3862
38	62	11	FS-XZC 3862-1
40	52	8	FS-XZC 4052
40	55	8	FS-XZC 4055
40	55	9	FS-XZC 4055-1
40	56	10	FS-XZC 4056
40	58	8	FS-XZC 4058
40	58	12	FS-XZC 4058-1

size			Art.No.
Shaft diameter	Outside diameter	Width	
d	D	b	
40	60	12	FS-XZC 4060
40	62	8	FS-XZC 4062
40	62	11	FS-XZC 4062-1
40	62	12	FS-XZC 4062-2
40	63	7	FS-XZC 4063
40	65	10	FS-XZC 4065
40	65	12	FS-XZC 4065-1
40	65	14	FS-XZC 4065-2
40	68	11	FS-XZC 4068
42	55	9	FS-XZC 4255
42	60	9	FS-XZC 4260
42	65	9	FS-XZC 4265
42	65	12	FS-XZC 4265-1
44	60	9	FS-XZC 4460
44	62	10	FS-XZC 4462
45	60	9	FS-XZC 4560
45	62	9	FS-XZC 4562
45	62	12	FS-XZC 4562-1
45	68	9	FS-XZC 4568
45	68	12	FS-XZC 4568-1
45	68	14	FS-XZC 4568-2
45	70	12	FS-XZC 4570
45	70	14	FS-XZC 4570-1
45	72	12	FS-XZC 4572
46	64	11	FS-XZC 4664
48	62	9	FS-XZC 4862
48	65	9	FS-XZC 4865
48	70	9	FS-XZC 4870
48	70	12	FS-XZC 4870-1
48	70	14	FS-XZC 4870-2
49	70	11	FS-XZC 4970
50	65	9	FS-XZC 5065
50	68	9	FS-XZC 5068
50	68	10	FS-XZC 5068-1
50	70	10	FS-XZC 5070
50	70	11	FS-XZC 5070-1
50	70	12	FS-XZC 5070-2
50	72	9	FS-XZC 5072
50	72	10	FS-XZC 5072-1
50	72	12	FS-XZC 5072-1

size			Art.No.
Shaft diameter	Outside diameter	Width	
d	D	b	
50	72	14	FS-XZC 5072-2
50	80	12	FS-XZC 5080
50	80	14	FS-XZC 5080-1
52	70	9	FS-XZC 5270
52	75	9	FS-XZC 5275
52	75	12	FS-XZC 5275-1
52	75	14	FS-XZC 5275-2
52	78	12	FS-XZC 5278
55	72	9	FS-XZC 5572
55	72	12	FS-XZC 5572-1
55	75	9	FS-XZC 5575
55	78	9	FS-XZC 5578
55	78	12	FS-XZC 5578-1
55	78	14	FS-XZC 5578-2
55	79	13	FS-XZC 5579
55	80	10	FS-XZC 5580
55	80	12	FS-XZC 5580-1
55	85	14	FS-XZC 5585
56	72	9	FS-XZC 5672
56	78	9	FS-XZC 5678
56	78	12	FS-XZC 5678-1
58	75	9	FS-XZC 5875
58	80	9	FS-XZC 5880
58	80	12	FS-XZC 5880-1
58	90	11	FS-XZC 5890
60	75	9	FS-XZC 6075
60	78	9	FS-XZC 6078
60	80	12	FS-XZC 6080
60	80	13	FS-XZC 6080-1
60	82	9	FS-XZC 6082
60	82	12	FS-XZC 6082-1
60	82	14	FS-XZC 6082-2
60	85	12	FS-XZC 6085
60	90	11	FS-XZC 6090
60	90	13	FS-XZC 6090-1
60	90	14	FS-XZC 6090-2
62	80	9	FS-XZC 6280
62	85	9	FS-XZC 6285
62	85	12	FS-XZC 6285-1
63	80	9	FS-XZC 6380

size			Art.No.
Shaft diameter	Outside diameter	Width	
d	D	b	
63	85	12	FS-XZC 6385
65	88	12	FS-XZC 6588
65	88	14	FS-XZC 6588-1
65	90	13	FS-XZC 6590
65	95	14	FS-XZC 6595
65	95	16	FS-XZC 6595-1
68	90	12	FS-XZC 6890
68	95	13	FS-XZC 6895
70	88	12	FS-XZC 7088
70	90	12	FS-XZC 7090
70	92	12	FS-XZC 7092
70	92	14	FS-XZC 7092-1
70	95	13	FS-XZC 7095
70	100	13	FS-XZC 70100
70	100	14	FS-XZC 70100-1
71	95	13	FS-XZC 7195
72	94	10	FS-XZC 7294
75	95	13	FS-XZC 7595
75	100	13	FS-XZC 75100
75	105	15	FS-XZC 75105
75	110	13	FS-XZC 75110
78	100	13	FS-XZC 78100
80	100	12	FS-XZC 80100
80	100	13	FS-XZC 80100-1
80	105	13	FS-XZC 80105
80	105	15	FS-XZC 80105-1
80	115	15	FS-XZC 80115
80	120	12	FS-XZC 80120
85	110	13	FS-XZC 85110
85	110	15	FS-XZC 85110-1
85	115	15	FS-XZC 85115
85	120	15	FS-XZC 85120
90	110	13	FS-XZC 90110
90	115	13	FS-XZC 90115
90	115	15	FS-XZC 90115-1
90	120	13	FS-XZC 90120
90	120	15	FS-XZC 90120-1
90	125	15	FS-XZC 90125
90	125	17	FS-XZC 90125-1
90	135	15	FS-XZC 90135
95	115	13	FS-XZC 95115

size			Art.No.
Shaft diameter	Outside diameter	Width	
d	D	b	
95	120	13	FS-XZC 95120
95	120	15	FS-XZC 95120-1
95	130	15	FS-XZC 95130
95	130	17	FS-XZC 95130-1
100	125	13	FS-XZC 100125
100	125	15	FS-XZC 100125-1
100	130	13	FS-XZC 100130
100	135	15	FS-XZC 100135
100	135	17	FS-XZC 100135-1
105	135	14	FS-XZC 105135
105	135	16	FS-XZC 105135-1
105	140	15	FS-XZC 105140
110	140	14	FS-XZC 110140
110	140	16	FS-XZC 110140-1
110	145	15	FS-XZC 110145
110	145	17	FS-XZC 110145-2
112	145	14	FS-XZC 112145
115	140	15	FS-XZC 115140
115	145	14	FS-XZC 115145
115	145	16	FS-XZC 115145-1
115	150	16	FS-XZC 115150
120	150	14	FS-XZC 120150
120	150	16	FS-XZC 120150-1
120	155	16	FS-XZC 120155
120	155	18	FS-XZC 120155-1
125	155	14	FS-XZC 125155
125	155	16	FS-XZC 125155-1
125	160	16	FS-XZC 125160
125	160	18	FS-XZC 125160-1
130	160	14	FS-XZC 130160
130	160	16	FS-XZC 130160-1
135	160	14	FS-XZC 135160
135	165	14	FS-XZC 135165
135	175	16	FS-XZC 135175
140	160	14	FS-XZC 140160
140	170	14	FS-XZC 140170
140	180	16	FS-XZC 140180
140	185	16	FS-XZC 140185
145	175	14	FS-XZC 145175
145	175	16	FS-XZC 145175-1

Shaft diameter	Outside diameter	Width	Art.No.
d	D	b	
145	176	14	FS-XZC 145176
145	190	16	FS-XZC 145190
150	180	14	FS-XZC 150180
150	180	16	FS-XZC 150180-1
155	180	15	FS-XZC 155180
160	190	15	FS-XZC 160190
160	190	16	FS-XZC 160190-1
160	196	20	FS-XZC 160196
170	200	16	FS-XZC 170200
170	205	16	FS-XZC 170205
170	225	20	FS-XZC 170225
180	210	16	FS-XZC 180210
180	215	18	FS-XZC 180215
185	210	15	FS-XZC 185210
190	225	16	FS-XZC 190225
200	230	15	FS-XZC 200230
200	235	18	FS-XZC 200235
200	240	17	FS-XZC 200240
200	240	20	FS-XZC 200240-1
210	250	16	FS-XZC 210250
210	250	20	FS-XZC 210250-1
220	250	16	FS-XZC 220250
220	255	18	FS-XZC 220255
220	260	22	FS-XZC 220260
220	275	23	FS-XZC 220275
220	275	26	FS-XZC 220275-1
230	260	20	FS-XZC 230260
230	270	16	FS-XZC 230270
230	270	20	FS-XZC 230270-1
240	270	20	FS-XZC 240270
240	275	16	FS-XZC 240275
240	275	18	FS-XZC 240275-1
240	280	19	FS-XZC 240280
250	285	18	FS-XZC 250285
250	310	25	FS-XZC 250310
260	320	25	FS-XZC 260320
270	330	25	FS-XZC 270330
280	320	22	FS-XZC 280320
280	340	28	FS-XZC 280340
290	350	25	FS-XZC 290350
300	360	25	FS-XZC 300360

KXZ

Standard materials

Seals material: filling PTFE

O-ring: nitrile rubber

Application scope

Rotary hydraulic rotation exists in various industrial fields such as engineering machinery, construction machinery, and automotive equipment. It is used to seal rods, shafts, pins, rotary joints, etc. that have rotating or swinging movements. It is a rotating sealing ring that can withstand bi-directional pressure or alternating pressure on both sides.

Features

- Can be provided in situations where piston rod or piston seal is required
- Low friction
- No crawling or sticking during startup
- Good wear resistance and dimensional stability
- The groove is simple and small in size, with lubrication chamber

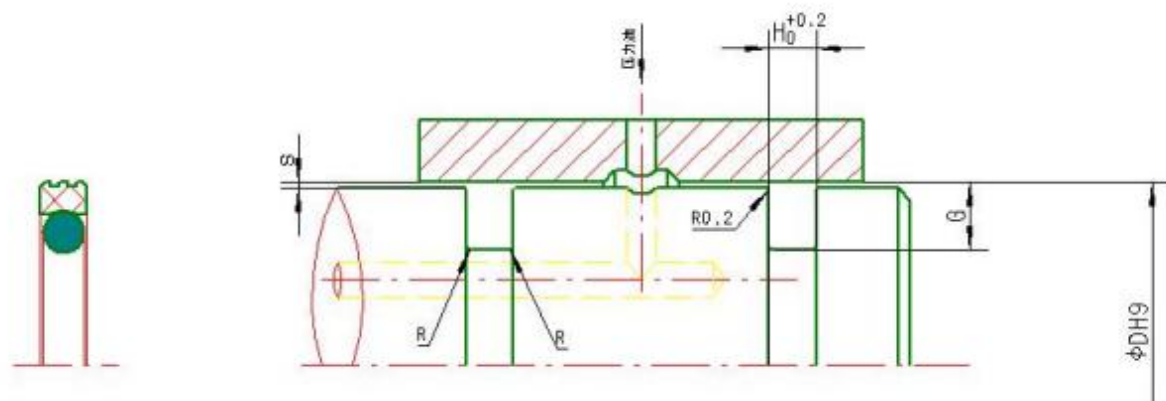
Operating conditions

Speed: $\leq 1\text{m/s}$

Pressure range: 0-30Mpa

Temperature: -30°C $+200^{\circ}\text{C}$

Section view



Groove Size

Installation size							
Cylinder hole dia. D H9		Groove dia.	Groove width	Max diameter clearance S		Radius	O-ring section
标准	适用	G	H+0.2	32 MPa	50 MPa	R	t
8-39.9	8-135	4.9	2.2	0.15	0.1	0.4	1.78
40-79.9	14-250	7.5	3.2	0.2	0.15	0.6	2.62
80-132.9	22-460	11	4.2	0.25	0.2	1	3.53
133-329.9	40-675	15.5	6.3	0.3	0.25	1.3	5.33
330-669.9	133-690	21	8.1	0.3	0.25	1.8	7
670-999.9	670-999.9	28	9.5	0.45	0.3	2.5	8.4

Cylinder hole dia. D H9	Groove dia. D-G	Groove width H+0.2	Art.No.
8	3.1	2.2	FS-KXZ 8
10	5.1	2.2	FS-KXZ 10
12	7.1	2.2	FS-KXZ 12
14	9.1	2.2	FS-KXZ 14
15	10.1	2.2	FS-KXZ 15
16	11.1	2.2	FS-KXZ 16
17	12.1	2.2	FS-KXZ 17
18	13.1	2.2	FS-KXZ 18
20	15.1	2.2	FS-KXZ 20
22	17.1	2.2	FS-KXZ 22
25	20.1	2.2	FS-KXZ 25
28	23.1	2.2	FS-KXZ 28
30	25.1	2.2	FS-KXZ 30
32	27.1	2.2	FS-KXZ 32
35	30.1	2.2	FS-KXZ 35

Cylinder hole dia.	Groove dia.	Groove width	Art.No.
D H9	D-G	H+0.2	
36	31.1	2.2	FS-KXZ 36
38	33.1	2.2	FS-KXZ 38
40	32.5	3.2	FS-KXZ 40
42	34.5	3.2	FS-KXZ 42
45	37.5	3.2	FS-KXZ 45
48	40.5	3.2	FS-KXZ 48
50	42.5	3.2	FS-KXZ 50
52	44.5	3.2	FS-KXZ 52
53	45.5	3.2	FS-KXZ 53
55	47.5	3.2	FS-KXZ 55
60	52.5	3.2	FS-KXZ 60
63	55.5	3.2	FS-KXZ 63
65	57.5	3.2	FS-KXZ 65
70	62.5	3.2	FS-KXZ 70
75	67.5	3.2	FS-KXZ 75
80	69	4.2	FS-KXZ 80
85	74	4.2	FS-KXZ 85
90	79	4.2	FS-KXZ 90
95	84	4.2	FS-KXZ 95
100	89	4.2	FS-KXZ 100
102	91	4.2	FS-KXZ 102
105	94	4.2	FS-KXZ 105
110	99	4.2	FS-KXZ 110
115	104	4.2	FS-KXZ 115
120	109	4.2	FS-KXZ 120
124	113	4.2	FS-KXZ 124
125	114	4.2	FS-KXZ 125
127	116	4.2	FS-KXZ 127
130	119	4.2	FS-KXZ 130
135	119.5	6.3	FS-KXZ 135
140	124.5	6.3	FS-KXZ 140
150	134.5	6.3	FS-KXZ 150
160	144.5	6.3	FS-KXZ 160
168	152.5	6.3	FS-KXZ 168
170	154.5	6.3	FS-KXZ 170
175	159.5	6.3	FS-KXZ 175
180	164.5	6.3	FS-KXZ 180
190	174.5	6.3	FS-KXZ 190
200	184.5	6.3	FS-KXZ 200
210	194.5	6.3	FS-KXZ 210
220	204.5	6.3	FS-KXZ 220

Cylinder hole dia.	Groove dia.	Groove width	Art.No.
D H9	D-G	H+0.2	
230	214.5	6.3	FS-KXZ 230
240	224.5	6.3	FS-KXZ 240
250	234.5	6.3	FS-KXZ 250
280	264.5	6.3	FS-KXZ 280
300	284.5	6.3	FS-KXZ 300
310	294.5	6.3	FS-KXZ 310
320	304.5	6.3	FS-KXZ 320
350	329	8.1	FS-KXZ 350
360	339	8.1	FS-KXZ 360
400	379	8.1	FS-KXZ 400
420	399	8.1	FS-KXZ 420
450	429	8.1	FS-KXZ 450
480	459	8.1	FS-KXZ 480
500	479	8.1	FS-KXZ 500
510	489	8.1	FS-KXZ 510
520	499	8.1	FS-KXZ 520
550	529	8.1	FS-KXZ 550
600	579	8.1	FS-KXZ 600
650	629	8.1	FS-KXZ 650
700	672	8.1	FS-KXZ 700

ZXZ

Standard materials

Seals material: filling PTFE

O-ring: nitrile rubber

Application scope

Rotary hydraulic rotation exists in various industrial fields such as engineering machinery, construction machinery, and automotive equipment. It is used to seal rods, shafts, pins, rotary joints, etc. that have rotating or swinging movements. It is a rotating sealing ring that can withstand bi-directional pressure or alternating pressure on both sides.

Features

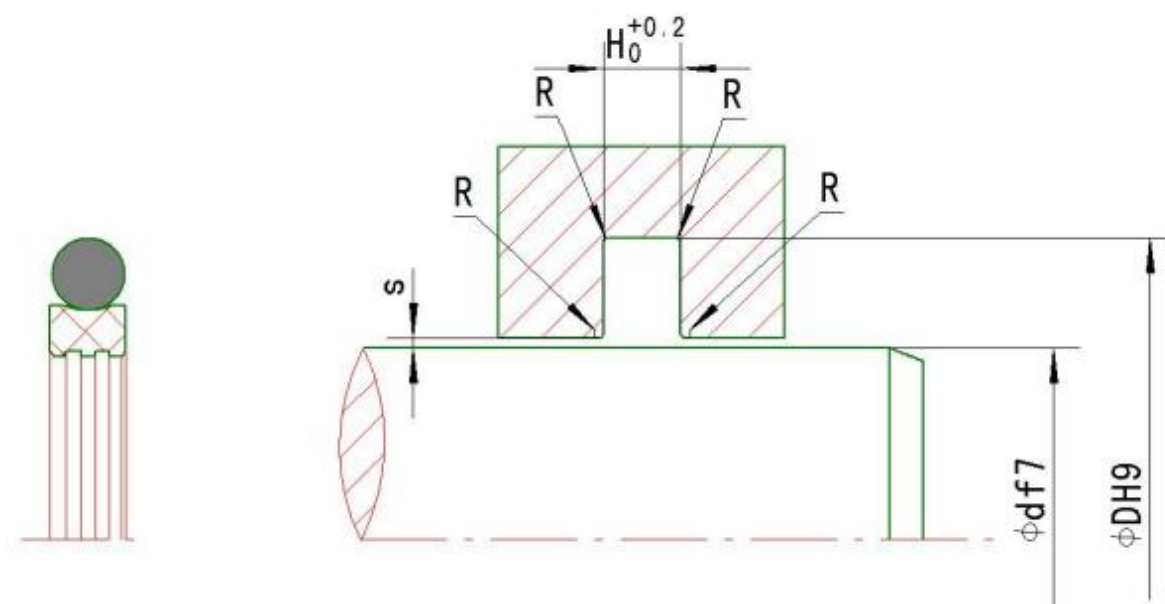
- Can be provided in situations where piston rod or piston seal is required
- Low friction
- No crawling or sticking during startup
- Good wear resistance and dimensional stability
- The groove is simple and small in size, with lubrication chamber

Operating conditions

Speed: $\leq 1\text{m/s}$

Pressure range: 0-30Mpa

Section view



Groove Size

Serial number	Section	O-ring section	Suggested standard range of rod dia. d(mm)		Groove width	Groove depth	Max clearance 0-200bar	Max clearance 200-400bar
		mm	≥	<	H(mm)	G(mm)	S(mm)	S(mm)
1	A	1.78	4	8	2.2	2.45	0.4-0.2	0.2-0.1
2	B	2.62	8	19	3.2	3.75	0.4-0.2	0.2-0.1
3	C	3.53	19	38	4.2	5.5	0.6-0.3	0.3-0.2
4	D	5.33	38	200	6.3	7.75	0.8-0.4	0.4-0.2
5	E	6.99	200	256	8.1	10.5	1.0-0.5	0.5-0.3
6	F	6.99	256	650	8.1	12.25	1.0-0.5	0.5-0.3
7	G	8.4	650	1000	9.5	14	1.0-0.5	0.5-0.3



d	D	H	Art.No.
4	8.9	2.2	FS-ZXZ 04
5	9.9	2.2	FS-ZXZ 05
7	11.9	2.2	FS-ZXZ 07
8	15.5	3.2	FS-ZXZ 08
10	17.5	3.2	FS-ZXZ 10
12	19.5	3.2	FS-ZXZ 12
14	21.5	3.2	FS-ZXZ 14
15	22.5	3.2	FS-ZXZ 15
16	23.5	3.2	FS-ZXZ 16
18	35.5	3.2	FS-ZXZ 18
20	31	4.2	FS-ZXZ 20
22	33	4.2	FS-ZXZ 22
24	35	4.2	FS-ZXZ 24
25	36	4.2	FS-ZXZ 25
26	37	4.2	FS-ZXZ 26
28	39	4.2	FS-ZXZ 28
30	41	4.2	FS-ZXZ 30
32	43	4.2	FS-ZXZ 32
35	46	4.2	FS-ZXZ 35
37	48	4.2	FS-ZXZ 37
38	53.5	6.3	FS-ZXZ 38
40	55.5	6.3	FS-ZXZ 40
42	57.5	6.3	FS-ZXZ 42
45	60.5	6.3	FS-ZXZ 45
48	63.5	6.3	FS-ZXZ 48
50	65.5	6.3	FS-ZXZ 50
52	67.5	6.3	FS-ZXZ 52
55	70.5	6.3	FS-ZXZ 55
58	73.5	6.3	FS-ZXZ 58
60	75.5	6.3	FS-ZXZ 60
65	80.5	6.3	FS-ZXZ 65
70	85.5	6.3	FS-ZXZ 70
75	90.5	6.3	FS-ZXZ 75
80	95.5	6.3	FS-ZXZ 80
85	100.5	6.3	FS-ZXZ 85
90	105.5	6.3	FS-ZXZ 90
95	110.5	6.3	FS-ZXZ 95
100	115.5	6.3	FS-ZXZ 100
110	125.5	6.3	FS-ZXZ 110
120	135.5	6.3	FS-ZXZ 120
125	140.5	6.3	FS-ZXZ 125
130	145.5	6.3	FS-ZXZ 130
140	155.5	6.3	FS-ZXZ 140

d	D	H	Art. No.
140	155.5	6.3	FS-ZXZ 140
150	165.5	6.3	FS-ZXZ 150
155	170.5	6.3	FS-ZXZ 155
160	175.5	6.3	FS-ZXZ 160
165	180.5	6.3	FS-ZXZ 165
170	185.5	6.3	FS-ZXZ 170
175	190.5	6.3	FS-ZXZ 175
180	195.5	6.3	FS-ZXZ 180
185	200.5	6.3	FS-ZXZ 185
190	205.5	6.3	FS-ZXZ 190
195	210.5	6.3	FS-ZXZ 195
200	221	8.1	FS-ZXZ 200
210	231	8.1	FS-ZXZ 210
220	241	8.1	FS-ZXZ 220
225	246	8.1	FS-ZXZ 225
230	251	8.1	FS-ZXZ 230
240	261	8.1	FS-ZXZ 240
250	271	8.1	FS-ZXZ 250
260	284.5	8.1	FS-ZXZ 260
270	294.5	8.1	FS-ZXZ 270
280	304.5	8.1	FS-ZXZ 280
290	314.5	8.1	FS-ZXZ 290
300	324.5	8.1	FS-ZXZ 300
310	334.5	8.1	FS-ZXZ 310
320	344.5	8.1	FS-ZXZ 320
330	354.5	8.1	FS-ZXZ 330
340	364.5	8.1	FS-ZXZ 340
350	374.5	8.1	FS-ZXZ 350
360	384.5	8.1	FS-ZXZ 360
370	394.5	8.1	FS-ZXZ 370
380	404.5	8.1	FS-ZXZ 380
390	414.5	8.1	FS-ZXZ 390
400	424.5	8.1	FS-ZXZ 400
410	434.5	8.1	FS-ZXZ 410
420	444.5	8.1	FS-ZXZ 420
430	454.5	8.1	FS-ZXZ 430
440	464.5	8.1	FS-ZXZ 440
450	474.5	8.1	FS-ZXZ 450
460	484.5	8.1	FS-ZXZ 460
470	494.5	8.1	FS-ZXZ 470
480	504.5	8.1	FS-ZXZ 480
490	514.5	8.1	FS-ZXZ 490
500	524.5	8.1	FS-ZXZ 500

ZFA

Standard materials

Seals material: filling PTFE, phenolic resin or polyoxymethylene

Application scope

Mainly used as guide sleeve for piston rods, it supports and guides the piston rods.

Features

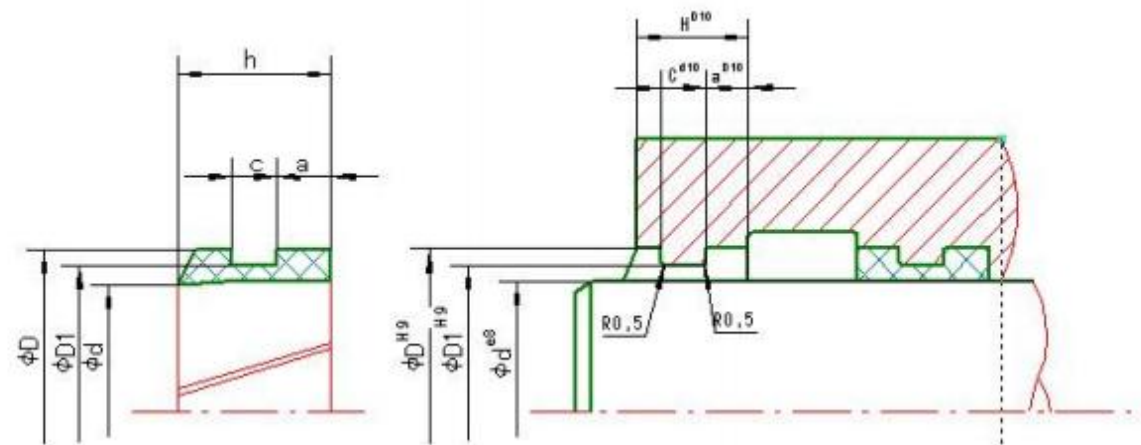
- Good shock absorption (radial runout)
- Easy to install and reliable
- The pairing of metal/plastic materials prevents "blockage" and "seizure" phenomena

Operating conditions

Speed: $\leq 3\text{m/s}$

Temperature: -55°C $+225^{\circ}\text{C}$ (above 120°C use filling PTFE)

Section view



Groove Size

Guide sleeve ZFA							
d	D	D1	h	H	c	a	Art.No.
28	34	31	19	17	6	6.5	FS-ZFA 28
30	36	33	19	17	6	6.5	FS-ZFA 30
36	42	39	19	17	6	6.5	FS-ZFA 36
40	46	43	19	17	6	6.5	FS-ZFA 40
42	48	45	19	17	6	6.5	FS-ZFA 42
45	51	48	19	17	6	6.5	FS-ZFA 45
50	56	53	19	17	6	6.5	FS-ZFA 50
55	61	58	19	17	6	6.5	FS-ZFA 55
56	62	59	19	17	6	6.5	FS-ZFA 56
60	70	65	24	21	7	8.5	FS-ZFA 60
63	73	68	24	21	7	8.5	FS-ZFA 63
65	75	70	24	21	7	8.5	FS-ZFA 65
70	80	75	24	21	7	8.5	FS-ZFA 70
72	82	77	24	21	7	8.5	FS-ZFA 72
75	85	80	24	21	7	8.5	FS-ZFA 75
80	90	85	24	21	7	8.5	FS-ZFA 80
85	95	90	24	21	7	8.5	FS-ZFA 85
90	100	95	24	21	7	8.5	FS-ZFA 90
95	105	100	24	21	7	8.5	FS-ZFA 95
100	110	105	24	21	7	8.5	FS-ZFA 100
105	115	110	24	21	7	8.5	FS-ZFA 105
110	120	115	24	21	7	8.5	FS-ZFA 110
115	125	120	24	21	7	8.5	FS-ZFA 115
120	130	125	24	21	7	8.5	FS-ZFA 120
125	135	130	24	21	7	8.5	FS-ZFA 125
130	140	135	24	21	7	8.5	FS-ZFA 130
140	150	145	24	21	7	8.5	FS-ZFA 140
150	162	156	35	31	15	10	FS-ZFA 150
160	172	166	35	31	15	10	FS-ZFA 160
165	177	171	35	31	15	10	FS-ZFA 165
170	182	176	35	31	15	10	FS-ZFA 170
180	192	186	35	31	15	10	FS-ZFA180
190	202	196	35	31	15	10	FS-ZFA 190
200	212	206	35	31	15	10	FS-ZFA 200
220	232	226	35	31	15	10	FS-ZFA 220
225	237	231	35	31	15	10	FS-ZFA 225
240	252	246	35	31	15	10	FS-ZFA 240
250	262	256	35	31	15	10	FS-ZFA 250
260	272	266	35	31	15	10	FS-ZFA 260

Guide sleeve ZFA							
d	D	D1	h	H	c	a	Art.No.
280	292	286	35	31	15	10	FS-ZFA 280
290	302	296	35	31	15	10	FS-ZFA 290
300	312	306	35	31	15	10	FS-ZFA 300
320	332	326	35	31	15	10	FS-ZFA 320
350	362	356	35	31	15	10	FS-ZFA 350
360	372	366	35	31	15	10	FS-ZFA 360
380	392	386	35	31	15	10	FS-ZFA 380
400	412	406	35	31	15	10	FS-ZFA 400
415	427	421	35	31	15	10	FS-ZFA 415
420	432	426	35	31	15	10	FS-ZFA 420
425	437	431	35	31	15	10	FS-ZFA 425
450	462	456	35	31	15	10	FS-ZFA 450
480	492	486	35	31	15	10	FS-ZFA 480
500	512	506	35	31	15	10	FS-ZFA 500
560	572	566	35	31	15	10	FS-ZFA 560
600	612	606	35	31	15	10	FS-ZFA 600
630	642	636	35	31	15	10	FS-ZFA 630

KFA

Standard materials

Seals material: filling PTFE, phenolic resin or polyoxymethylene

Application scope

Mainly used as guide sleeve for piston rods, it supports and guides the piston rods.

Features

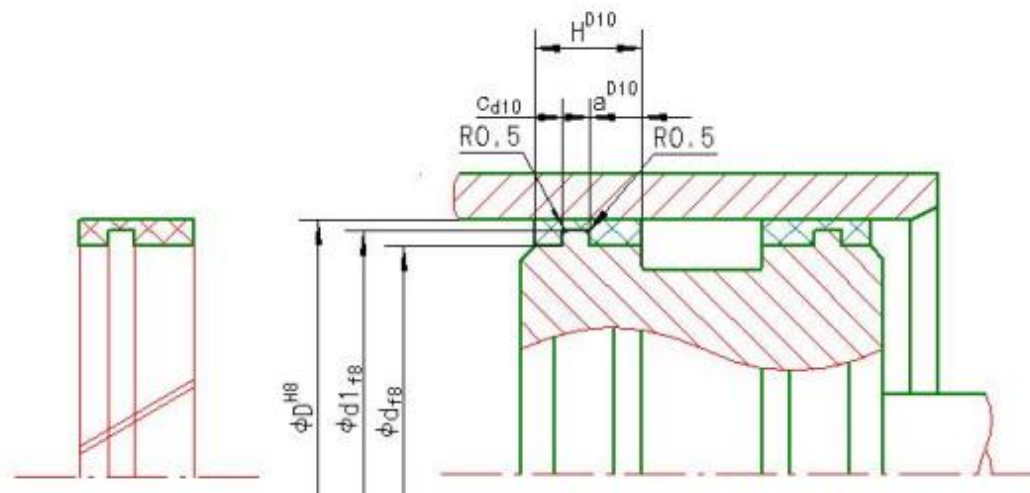
- Good shock absorption (radial runout)
- Easy to install and reliable
- The pairing of metal/plastic materials prevents "blockage" and "seizure" phenomena

Operating conditions

Speed: $\leq 3\text{m/s}$

Temperature: -55°C $+225^{\circ}\text{C}$ (above 120°C use filling PTFE)

Section view



Guide sleeve KFA					
D	d	d1	c	a	Art.No.
56	48	52	3	6.2	FS-KFA 56
63	55	59	3	6.2	FS-KFA 63
65	57	61	3	6.2	FS-KFA 65
70	62	66	3	6.2	FS-KFA 70
75	67	71	3	6.2	FS-KFA 75
80	72	76	3	7.2	FS-KFA 80
85	77	81	3	7.2	FS-KFA 85
90	82	86	3	7.2	FS-KFA 90
95	87	91	3	7.2	FS-KFA 95
100	92	96	3	7.2	FS-KFA 100
105	97	101	3	7.2	FS-KFA 105
110	102	106	3	7.2	FS-KFA 110
115	107	111	3	7.2	FS-KFA 115
120	112	116	3	7.2	FS-KFA 120
125	115	121	4	9.2	FS-KFA 125
130	120	126	4	9.2	FS-KFA 130
135	125	131	4	9.2	FS-KFA 135
140	130	136	4	9.2	FS-KFA 140
145	135	141	4	9.2	FS-KFA 145
150	140	146	4	9.2	FS-KFA 150
155	145	151	4	9.2	FS-KFA 155
160	150	156	4	9.2	FS-KFA 160
170	160	166	6	9.2	FS-KFA 170
180	170	176	6	9.2	FS-KFA 180
190	180	186	4.5	11.7	FS-KFA 190
200	190	196	4.5	11.7	FS-KFA 200
210	200	206	8	11.7	FS-KFA 210
220	210	216	8	11.7	FS-KFA 220
225	215	221	8	11.7	FS-KFA 225
230	220	226	8	11.7	FS-KFA 230
235	225	231	15	11.7	FS-KFA 235
240	230	236	15	11.7	FS-KFA 240
250	240	246	15	11.7	FS-KFA 250
265	255	261	15	11.7	FS-KFA 265
275	265	271	15	11.7	FS-KFA 275
280	270	276	15	11.7	FS-KFA 280
290	280	286	15	11.7	FS-KFA 290
300	290	296	15	11.7	FS-KFA 300
310	298	304	8.5	13.25	FS-KFA 310
320	308	314	8.5	13.25	FS-KFA 320

Guide sleeve KFA					
D	d	d1	c	a	Art.No.
340	328	334	8.5	13.25	FS-KFA 340
350	338	344	8.5	13.25	FS-KFA 350
360	348	354	8.5	13.25	FS-KFA 360
380	368	374	8.5	13.25	FS-KFA 380
400	388	394	8.5	13.25	FS-KFA 400
420	408	414	8.5	13.25	FS-KFA 420
425	413	419	8.5	13.25	FS-KFA 425
450	438	444	8.5	13.25	FS-KFA 450
480	468	474	8.5	13.25	FS-KFA 480
500	488	494	8.5	13.25	FS-KFA 500
560	548	554	8.5	13.25	FS-KFA 560
600	588	594	8.5	13.25	FS-KFA 600
630	618	624	8.5	13.25	FS-KFA 630
650	638	644	8.5	13.25	FS-KFA 650
700	688	694	8.5	13.25	FS-KFA 700
750	738	744	8.5	13.25	FS-KFA 750
780	768	774	8.5	13.25	FS-KFA 780
800	788	794	8.5	13.25	FS-KFA 800
810	798	804	8.5	13.25	FS-KFA 810
830	818	824	8.5	13.25	FS-KFA 830
850	838	844	8.5	13.25	FS-KFA 850
1000	988	994	8.5	13.25	FS-KFA 1000

ZFB

Standard materials

Seals material: filling PTFE,phenolic resin or polyoxymethylene

Application scope

Mainly used as guide sleeve for piston rods, it supports and guides the piston rods.

Features

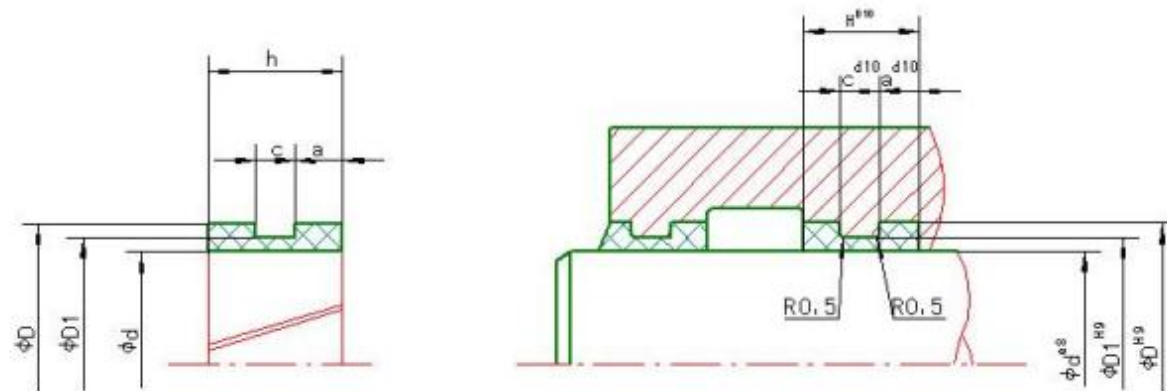
- Good shock absorption (radial runout)
- Easy to install and reliable
- The pairing of metal/plastic materials prevents "blockage" and "seizure" phenomena

Operating conditions

Speed: $\leq 3\text{m/s}$

Temperature: -55°C $+225^{\circ}\text{C}$ (above 120°C use filling PTFE)

Section view



Groove Size

Guide sleeve ZFB					
d	D	D1	c	a	Art.No.
18	24	21	6	6.5	FS-ZFB 18
20	26	23	6	6.5	FS-ZFB 20
22	28	25	6	6.5	FS-ZFB 22
25	31	28	6	6.5	FS-ZFB 25
28	34	31	6	6.5	FS-ZFB 28
30	36	33	6	6.5	FS-ZFB 30
36	42	39	6	6.5	FS-ZFB 36
40	46	43	6	6.5	FS-ZFB 40
42	48	45	6	6.5	FS-ZFB 42
45	51	48	6	6.5	FS-ZFB 45
50	56	53	6	6.5	FS-ZFB 50
55	61	58	6	6.5	FS-ZFB 55
56	62	59	6	6.5	FS-ZFB 56
60	70	65	7	8.5	FS-ZFB 60
63	73	68	7	8.5	FS-ZFB 63
65	75	70	7	8.5	FS-ZFB 65
70	80	75	7	8.5	FS-ZFB 70
72	82	77	7	8.5	FS-ZFB 72
75	85	80	7	8.5	FS-ZFB 75
80	90	85	7	8.5	FS-ZFB 80
85	95	90	7	8.5	FS-ZFB 85
90	100	95	7	8.5	FS-ZFB 90
95	105	100	7	8.5	FS-ZFB 95
96	106	101	7	8.5	FS-ZFB 96
100	110	105	7	8.5	FS-ZFB 100
105	115	110	7	8.5	FS-ZFB 105
110	120	115	7	8.5	FS-ZFB 110
115	125	120	7	8.5	FS-ZFB 115
120	130	125	7	8.5	FS-ZFB 120
125	135	130	7	8.5	FS-ZFB 125
130	140	135	7	8.5	FS-ZFB 130
140	150	145	7	8.5	FS-ZFB 140
150	162	156	15	10	FS-ZFB 150
155	167	161	15	10	FS-ZFB 155
160	172	166	15	10	FS-ZFB 160
165	177	171	15	10	FS-ZFB 165
170	182	176	15	10	FS-ZFB 170
180	192	186	15	10	FS-ZFB 180
190	202	196	15	10	FS-ZFB 190
200	212	206	15	10	FS-ZFB 200

Guide sleeve ZFB					
d	D	D1	c	a	Art.No.
220	232	226	15	10	FS-ZFB 220
225	237	231	15	10	FS-ZFB 225
240	252	246	15	10	FS-ZFB 240
250	262	256	15	10	FS-ZFB 250
260	272	266	15	10	FS-ZFB 260
280	292	286	15	10	FS-ZFB 280
290	302	296	15	10	FS-ZFB 290
300	312	306	15	10	FS-ZFB 300
320	332	326	15	10	FS-ZFB 320
350	362	356	15	10	FS-ZFB 350
360	372	366	15	10	FS-ZFB 360
380	392	386	15	10	FS-ZFB 380
400	412	406	15	10	FS-ZFB 400
415	427	421	15	10	FS-ZFB 415
420	432	426	15	10	FS-ZFB 420
425	437	431	15	10	FS-ZFB 425
450	462	456	15	10	FS-ZFB 450
480	492	486	15	10	FS-ZFB 480
500	512	506	15	10	FS-ZFB 500
560	572	566	15	10	FS-ZFB 560
600	612	606	15	10	FS-ZFB 600
630	642	636	15	10	FS-ZFB 630

ZCH

Standard materials

Seals material: filling PTFE, phenolic resin, polyoxymethylene and nylon

Application scope

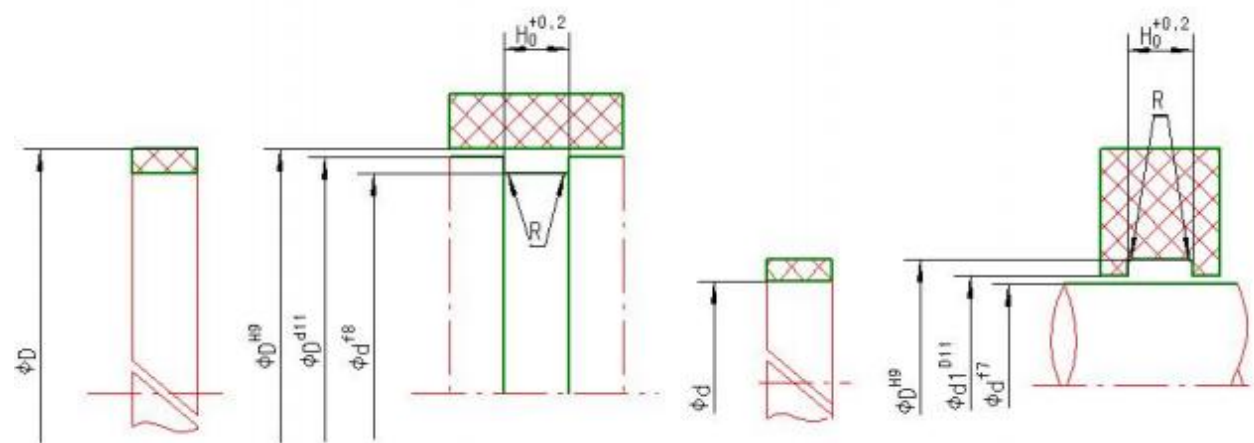
Mainly used for guiding pistons and piston rods in hydraulic cylinders and cylinders, providing support and guidance functions.

Operating conditions

Speed: ≤ 0.5 or $\leq 5\text{m/s}$ (by material)

Temperature: -35°C $+110^{\circ}\text{C}$ or -100°C $+230^{\circ}\text{C}$ (by material)

Section view



Groove Size

d	D	d1	D1	H	Art.No.
16	21	16.2	20.8	5.6	FS-ZCH 1656
20	23.2	20.2	23	5	FS-ZCH 2005
20	25	20.2	24.8	4	FS-ZCH 2004
20	25	20.2	24.8	5.6	FS-ZCH 2056
20	25	20.2	24.8	9.7	FS-ZCH 2097
25	30	25.2	29.8	5.6	FS-ZCH 2556
25	30	25.2	29.8	9.7	FS-ZCH 2597
27	32	27.2	31.8	5.6	FS-ZCH 2756
28	33	28.2	32.8	5.6	FS-ZCH 2856
28	33	28.2	32.8	9.7	FS-ZCH 2897
30	35	30.2	34.8	5.6	FS-ZCH 3056
30	35	30.2	34.8	9.7	FS-ZCH 3097
32	37	32.3	36.7	5.6	FS-ZCH 3256
32	37	32.3	36.7	9.7	FS-ZCH 3297
33	38	33.3	37.7	5.6	FS-ZCH 3356
34	39	34.3	38.7	5.6	FS-ZCH 3456
35	40	35.3	39.7	4	FS-ZCH 3504
35	40	35.3	39.7	5.6	FS-ZCH 3556
35	40	35.3	39.7	9.7	FS-ZCH 3597
35	45	35.3	44.7	15	FS-ZCH 3515
36	41	36.3	40.7	5.6	FS-ZCH 3656
36	41	36.3	40.7	9.7	FS-ZCH 3697
40	45	40.4	44.6	4	FS-ZCH 4004
40	45	40.4	44.6	5.6	FS-ZCH 4056
40	45	40.4	44.6	9.7	FS-ZCH 4097
40	45	40.4	44.6	15	FS-ZCH 4015
42	47	42.4	46.6	5.6	FS-ZCH 4256
45	50	45.4	49.6	5.6	FS-ZCH 4556
45	50	45.4	49.6	6.3	FS-ZCH 4563
45	50	45.4	49.6	9.7	FS-ZCH 4597
45	50	45.4	49.6	15	FS-ZCH 4515
46	50	46.4	59.6	10	FS-ZCH 4610
48	53	48. 4	52. 6	9. 7	FS-ZCH 4897
50	55	50. 4	54. 6	5. 6	FS-ZCH 5056
50	55	50. 4	54. 6	9. 7	FS-ZCH 5097
50	55	50. 4	54. 6	20	FS-ZCH 5020
53	58	53. 4	57. 6	9. 7	FS-ZCH 5397
55	60	55. 4	59. 6	5. 6	FS-ZCH 5556
55	60	55. 4	59. 6	9. 7	FS-ZCH 5597
55	60	55. 4	59. 6	15	FS-ZCH 5515
56	61	56. 4	60. 6	9. 7	FS-ZCH 5697

d	D	d1	D1	H	Art.No.
56	61	56. 4	60. 6	15	FS-ZCH 5615
58	63	58. 4	62. 6	5. 6	FS-ZCH 5856
58	63	58. 4	62. 6	6. 3	FS-ZCH 5863
58	63	58. 4	62. 6	9. 7	FS-ZCH 5897
58	63	58. 4	62. 6	15	FS-ZCH 5815
59	64	59. 4	63. 6	9. 7	FS-ZCH 5997
60	65	60. 5	64. 5	5. 6	FS-ZCH 6056
60	65	60. 5	64. 5	9. 7	FS-ZCH 6097
60	65	60. 5	64. 5	15	FS-ZCH 6015
63	68	63. 5	67. 5	5. 6	FS-ZCH 6356
63	68	63. 5	67. 5	6. 3	FS-ZCH 6363
63	68	63. 5	67. 5	9. 7	FS-ZCH 6397
63	68	63. 5	67. 5	15	FS-ZCH 6315
65	70	65. 5	69. 5	5. 6	FS-ZCH 6556
65	70	65. 5	69. 5	9. 7	FS-ZCH 6597
65	70	65. 5	69. 5	15	FS-ZCH 6515
65	70	65. 5	69. 5	16	FS-ZCH 6516
67	72	67. 5	71. 5	9. 7	FS-ZCH 6797
70	75	70.5	74.5	6.3	FS-ZCH 7063
70	75	70.5	74.5	9.7	FS-ZCH 7097
70	75	70.5	74.5	15	FS-ZCH 7015
74	80	74.5	79.5	12.5	FS-ZCH 74125
74	80	74.5	79.5	12.7	FS-ZCH 74127
75	80	75.5	79.5	5.6	FS-ZCH 7556
75	80	75.5	79.5	6.3	FS-ZCH 7563
75	80	75.5	79.5	9.7	FS-ZCH 7597
75	80	75.5	79.5	15	FS-ZCH 7515
80	85	80.5	84.5	5.6	FS-ZCH 8056
80	85	80.5	84.5	6.3	FS-ZCH 8063
80	85	80.5	84.5	9.7	FS-ZCH 8097
80	85	80.5	84.5	15	FS-ZCH 8015
80	85	80.5	84.5	16	FS-ZCH 8016
80	85	80.5	84.5	25	FS-ZCH 8025
80	85	80.5	84.5	40	FS-ZCH 8040
85	90	85.5	89.5	9.7	FS-ZCH 8597
85	90	85.5	89.5	15	FS-ZCH 8515
85	90	85.5	89.5	40	FS-ZCH 8540
90	95	90.5	94.5	9.7	FS-ZCH 9097
90	95	90.5	94.5	15	FS-ZCH 9015
95	100	95.6	99.4	9.7	FS-ZCH 9597
95	100	95.6	99.4	15	FS-ZCH 9515
95	100	95.6	99.4	40	FS-ZCH 9540
100	105	100.6	104.4	9.7	FS-ZCH 10097

d	D	d1	D1	H	Art.No.
100	105	100.6	104.4	15	FS-ZCH 10015
100	105	100.6	104.4	16	FS-ZCH 10016
100	105	100.6	104.4	25	FS-ZCH 10025
100	105	100.6	104.4	60	FS-ZCH 10060
105	110	105.6	109.4	9.7	FS-ZCH 10597
105	110	105.6	109.4	25	FS-ZCH 10525
110	114			15	FS-ZCH 11011415
110	115	110.6	114.4	9.7	FS-ZCH 11097
110	115	110.6	114.4	15	FS-ZCH 11015
110	115	110.6	114.4	25	FS-ZCH 11025
115	120	115.6	119.4	9.7	FS-ZCH 11597
115	120	115.6	119.4	15	FS-ZCH 11515
119	125	119.6	124.4	10	FS-ZCH 11910
120	125	120.6	124.4	9.7	FS-ZCH 12097
120	125	120.6	124.4	15	FS-ZCH 12015
120	125	120.6	124.4	25	FS-ZCH 12025
125	130	125.6	129.4	5.6	FS-ZCH 12556
125	130	125.6	129.4	9.7	FS-ZCH 12597
125	130	125.6	129.4	15	FS-ZCH 12515
125	130	125.6	129.4	25	FS-ZCH 12525
130	135	130.6	134.4	15	FS-ZCH 13015
135	140	135.6	139.4	9.7	FS-ZCH 13597
135	140	135.6	139.4	15	FS-ZCH 13515
135	140	135.6	139.4	25	FS-ZCH 13525
138	145	138.6	144.4	15	FS-ZCH 13815
140	145	140.7	144.3	9.7	FS-ZCH 14097
140	145	140.7	144.3	15	FS-ZCH 14015
140	145	140.7	144.3	25	FS-ZCH 14025
145	150	145.7	149.3	9.7	FS-ZCH 14597
145	150	145.7	149.3	15	FS-ZCH 14515
145	150	145.7	149.3	25	FS-ZCH 14525
150	155	150.7	154.3	9.7	FS-ZCH 15097
150	155	150.7	154.3	15	FS-ZCH 15015
150	155	150.7	154.3	25	FS-ZCH 15025
155	160	155.7	159.3	9.7	FS-ZCH 15597
155	160	155.7	159.3	15	FS-ZCH 15515
155	160	155.7	159.3	25	FS-ZCH 15525
160	165	160.7	164.3	9.7	FS-ZCH 16097
160	165	160.7	164.3	15	FS-ZCH 16015
160	165	160.7	164.3	25	FS-ZCH 16025
165	170	165.7	169.3	9.7	FS-ZCH 16597
165	170	165.7	169.3	15	FS-ZCH 16515
170	175	170.7	174.3	9.7	FS-ZCH 17097

d	D	d1	D1	H	Art.No.
170	175	170.7	174.3	25	FS-ZCH 17025
174	182			25	FS-ZCH 17425
175	180	175.7	179.3	9.7	FS-ZCH 17597
175	180	175.7	179.3	15	FS-ZCH 17515
175	180	175.7	179.3	25	FS-ZCH 17525
180	185	180.7	184.3	15	FS-ZCH 18015
195	200	195.7	199.3	9.7	FS-ZCH 19597
195	200	195.7	199.3	15	FS-ZCH 19515
195	200	195.7	199.3	25	FS-ZCH 19525
200	205	200.7	204.3	15	FS-ZCH 20015
200	205	200.7	204.3	25	FS-ZCH 20025
205	210	205.7	209.3	15	FS-ZCH 20515
205	210	205.7	209.3	25	FS-ZCH 20525
210	215	210.7	214.3	25	FS-ZCH 21025
215	220	215.7	219.3	15	FS-ZCH 21515
215	220	215.7	219.3	20	FS-ZCH 21520
215	220	215.7	219.3	25	FS-ZCH 21525
220	225	220.7	224.3	15	FS-ZCH 22015
220	225	220.7	224.3	25	FS-ZCH 22025
225	230	225.7	229.3	15	FS-ZCH 22515
235	240	235.7	239.3	9.7	FS-ZCH 23597
235	240	235.7	239.3	15	FS-ZCH 23515
235	240	235.7	239.3	35	FS-ZCH 23535
245	250	245.7	249.3	9.7	FS-ZCH 24597
245	250	245.7	249.3	15	FS-ZCH 24515
245	250	245.7	249.3	16	FS-ZCH 24516
245	250	245.7	249.3	25	FS-ZCH 24525
250	255	250.7	254.3	15	FS-ZCH 25015
250	255	250.7	254.3	25	FS-ZCH 25025
260	265	260.7	264.3	25	FS-ZCH 26025
265	270	265.7	269.3	15	FS-ZCH 26515
275	280	275.8	279.2	9.7	FS-ZCH 27597
275	280	275.8	279.2	15	FS-ZCH 27515
275	280	275.8	279.2	20	FS-ZCH 27520
275	280	275.8	279.2	25	FS-ZCH 27525

DQ

Standard materials

Seals material: nylon or filling PTFE

Application scope

To prevent clearance extrusion of the sealing ring in high pressure, in order to improve the service life of the sealing ring and meet the requirements of the system for the sealing ring. The retaining ring is generally installed on the back side of the sealing ring pressure bearing side to protect it.

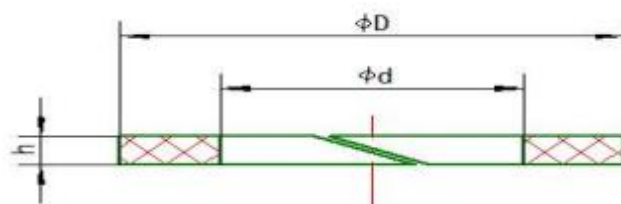
Operating conditions

Temperature: nylon -30℃ +100℃

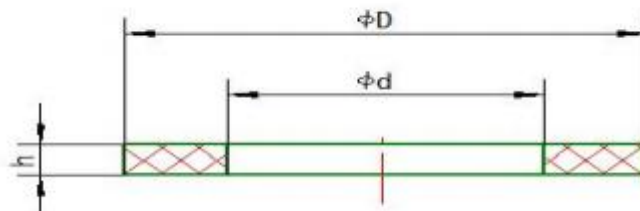
filling PTFE -50℃ +20℃

Pressure: 0-40Mpa

Section view:



斜截



无接头

Type DQ			
d	D	h	Art. No.
8	18		FS-DQ 08
10	20		FS-DQ 10
14	24		FS-DQ 14
15	28		FS-DQ 15
16	30		FS-DQ 16
18	26		FS-DQ 18
	31		FS-DQ 18-1
20	28	2	FS-DQ 20
	30		FS-DQ 20-1
	33		FS-DQ 20-2
22	35		FS-DQ 22
22.4	30		FS-DQ 22.4
	33		FS-DQ 22.4-1
23.5	31.5		FS-DQ 23.5
25	35		FS-DQ 25
	38		FS-DQ 25-1
25.5	35.5		FS-DQ 25.5
27	40		FS-DQ 27
28	35.5		FS-DQ 28
	40		FS-DQ 28-1
	41		FS-DQ 28-2
30	40		FS-DQ 30
	43		FS-DQ 30-1
31.5	41.5		FS-DQ 31.5
	44.5		FS-DQ 31.5-1
34	50		FS-DQ 34
35	45		FS-DQ 35
	50		FS-DQ 35-1
35.5	45	3	FS-DQ 35.5
	51.5		FS-DQ 35.5-1
40	50		FS-DQ 40
	56		FS-DQ 40-1
45	55		FS-DQ 45
	56		FS-DQ 45-1
	61		FS-DQ 45-2
47	60		FS-DQ 47
	63		FS-DQ 47-1
50	60		FS-DQ 50
	66		FS-DQ 50-1
52	62		FS-DQ 52
53	63		FS-DQ 53

Type DQ			
d	D	h	Art.No.
55	65		FS-DQ 55
	71		FS-DQ 55-1
56	66		FS-DQ 56
60	70		FS-DQ 60
	71		FS-DQ 60-1
	76		FS-DQ 60-2
63	73		FS-DQ 63
64	80		FS-DQ 64
65	75		FS-DQ 65
67	77	3	FS-DQ 67
70	80		FS-DQ 70
	90		FS-DQ 70-1
71	80		FS-DQ 71
	81		FS-DQ 71-1
75	90		FS-DQ 75-1
	95		FS-DQ 75
80	90		FS-DQ 80
	100		FS-DQ 80-1
85	100		FS-DQ 85
	105		FS-DQ 85-1
90	98	4	FS-DQ 9098
	105		FS-DQ 90
	110		FS-DQ 90-1
95	110	3	FS-DQ 95
	115		FS-DQ 95-1
98	112		FS-DQ 98
100	108	2	FS-DQ 100108
	115		FS-DQ 100
	120		FS-DQ 100-1
105	125		FS-DQ 105
106	120		FS-DQ 106
112	125		FS-DQ 112
	132		FS-DQ 112-1
120	140	3	FS-DQ 120
125	145		FS-DQ 125
	150		FS-DQ 125-1
135	160		FS-DQ 135
136	150		FS-DQ 136
140	165		FS-DQ 140
145	160		FS-DQ 145
	170		FS-DQ 145-1

Type DQ			
d	D	h	订货号
150	165	3	FS-DQ 150
155	170	4	FS-DQ155
	180		FS-DQ155-1
160	175		FS-DQ160
	185		FS-DQ160-1
165	180		FS-DQ165
170	195		FS-DQ170
	200		FS-DQ170-1
175	190		FS-DQ175
	200		FS-DQ175-1
225	245		FS-DQ225
	250		FS-DQ225-1
230	255		FS-DQ230
240	260		FS-DQ240

Type DQ			
d	D	h	Art.No.
250	270	4	FS-DQ250
255	280		FS-DQ255
260	285		FS-DQ260
250	275		FS-DQ250-1
265	290		FS-DQ265
265	297		FS-DQ265-1
270	295		FS-DQ270
270	300		FS-DQ270-1
275	300		FS-DQ275
280	305		FS-DQ280
280	312		FS-DQ280-1
290	315		FS-DQ290
300	325		FS-DQ300
300	332		FS-DQ300-1

ZO

Standard materials

Seals material: nitrile rubber or fluorine rubber

Application scope

Used as the main sealing element, it can also be used as force application element for sliding seals and dust rings, thus covering wide range applications.

Features

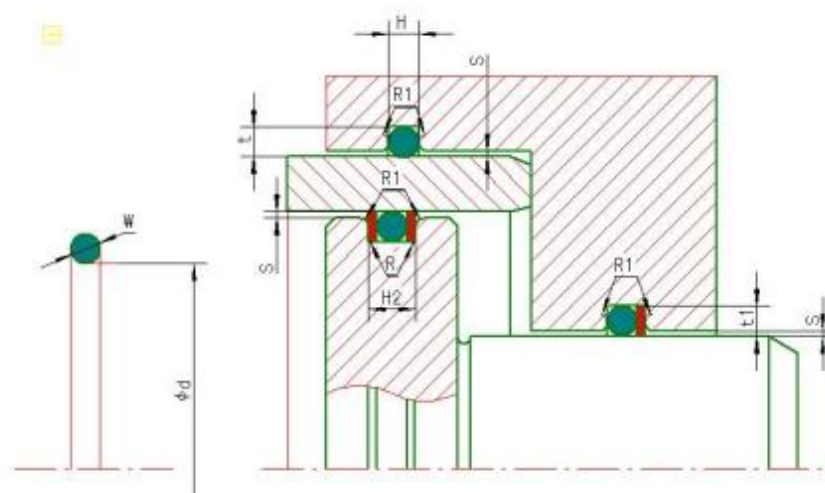
- Simple structure
- Compact design with small part shapes
- Easy to install

Operating conditions

Pressure range: $\leq 40\text{Mpa}$ (Equipped with retaining ring)

Temperature: -45°C $+260^{\circ}\text{C}$ (By material)

Section view



Groove Size

O-ring section diameter W			1.8	2.65	3.55	5.3	7
Groove Width	Pneumatic sealing		2.2	3.4	4.6	6.9	9.3
	Hydraulic dynamic sealing or static sealing	H ^{+0.25}	2.4	3.6	4.8	7.1	9.5
		H1 ^{+0.25}	3.8	5	6.2	9	12.3
		H2 ^{+0.25}	5.2	6.4	7.6	10.9	15.1
Groove depth B	Piston sealing	Hydraulic dynamic sealing	1.42	2.16	2.96	4.48	5.95
		Pneumatic sealing	1.46	2.23	3.03	4.65	6.2
		Static sealing	1.38	2.07	2.74	4.19	5.67
	Piston rod sealing	Hydraulic dynamic sealing	1.47	2.24	3.07	4.66	6.16
		Pneumatic sealing	1.57	2.37	3.24	4.86	6.43
		Static sealing	1.42	2.15	2.85	4.36	5.89
Fillet radius of groove bottom R			0.2 to 0.4		0.4 to 0.8		0.8to1.2
Fillet radius of groove edge R1							

Groove size of O-ring rubber axial sealing ring （GB3452.3-88）					
Section dia. of O-ring sealing ring W	1.8	2.65	3.55	5.3	7
Sealing groove width H+0.25	2.6	3.8	5	7.3	9.7
Sealing groove deptht+0.10	1.28	1.97	2.75	4.24	5.72
Fillet Radius of sealing groove bottom R	0.20to0.40		0.40to0.80		0.8to1.2
Fillet Radius of sealing groove edge R1	0.10to0.30				

Inside dia. d	Section diameter				
	1.8± 0.08	2.65± 0.09	3.55± 0.10	5.3± 0.13	7.0± 0.15
1.8	•				
2	•				
2.24	•				
2.5	•				
2.8	•				
3.15	•				
3.55	•				
3.75	•				
4	•				
4.5	•				
4.87	•				
5	•				
5.15	•				
5.3	•				
5.6	•				
6	•				
6.3	•				



Inside dia. d	Section diameter				
	1.8± 0.08	2.65± 0.09	3.55± 0.10	5.3± 0.13	7.0± 0.15
6.7	•				
6.9	•				
7.1	•	•			
7.5	•	•			
8	•	•			
8.5	•	•			
8.75	•	•			
9	•	•			
9.5	•	•			
10	•	•			
10.6	•	•			
11.2	•	•			
11.8	•	•			
12.5	•	•			
13.2	•	•			
14	•	•			
15	•	•			
16	•	•			
17	•	•			
18	•	•	•		
19	•	•	•		
20	•	•	•		
21.2	•	•	•		
22.4	•	•	•		
23.6	•	•	•		
25	•	•	•		
25.8	•	•	•		
26.5	•	•	•		
28	•	•	•		
30	•	•	•		
31.5	•	•	•		
32.5	•	•	•		
33.5	•	•	•		
34.5	•	•	•		
35.5	•	•	•		
36.5	•	•	•		
37.5	•	•	•		
38.7	•	•	•		
40	•	•	•	•	
41.2	•	•	•	•	

Inside dia. d	Section diameter				
	1.8± 0.08	2.65± 0.09	3.55± 0.10	5.3± 0.13	7.0± 0.15
42.5	•	•	•	•	
43.7	•	•	•	•	
45	•	•	•	•	
46.2	•	•	•	•	
47.5	•	•	•	•	
48.7	•	•	•	•	
50	•	•	•	•	
51.5		•	•	•	
53		•	•	•	
54.5		•	•	•	
56		•	•	•	
58		•	•	•	
60		•	•	•	
61.5		•	•	•	
63		•	•	•	
65		•	•	•	
67		•	•	•	
69		•	•	•	
71		•	•	•	
73		•	•	•	
75		•	•	•	
77.5			•	•	
80		•	•	•	
82.5			•	•	
85		•	•	•	
87.5		•	•	•	
90			•	•	
92.5			•	•	
95		•	•	•	
97.5			•	•	
100		•	•	•	
103			•	•	
106		•	•	•	
107.28				5.33	
109			•	•	•
112		•	•	•	•
115			•	•	•
118		•	•	•	•
122			•	•	•
125		•	•	•	•

Inside dia. d	Section diameter				
	1.8± 0.08	2.65± 0.09	3.55± 0.10	5.3± 0.13	7.0± 0.15
128			•	•	•
132		•	•	•	•
136			•	•	•
140		•	•	•	•
145			•	•	•
150		•	•	•	•
155			•	•	•
160		•	•	•	•
165			•	•	•
170		•	•	•	•
175			•	•	•
180		•	•	•	•
185			•	•	•
190			•	•	•
195			•	•	•
200			•	•	•
206					•
212				•	•
218					•
224				•	•
230					•
236				•	•
243					•
250				•	•
258					•
265				•	•
272					•
280				•	•
290					•
300				•	•
307					•
315				•	•
325					•
335				•	•
345					•
355				•	•
365					•
375				•	•
387					•
400				•	•

Inside dia. d	Section diameter				
	1.8± 0.08	2.65± 0.09	3.55± 0.10	5.3± 0.13	7.0± 0.15
412					•
425					•
437					•
450					•
462					•
475					•
487					•
500					•
515					•
530					•
545					•
560					•
580					•
600					•
615					•
630					•
650					•
670					•

KO

Standard materials

Seals material: nitrile rubber or fluorine rubber

Application scope

Used as the main sealing element, it can also be used as force application element for sliding seals and dust rings, thus covering wide range applications.

Features

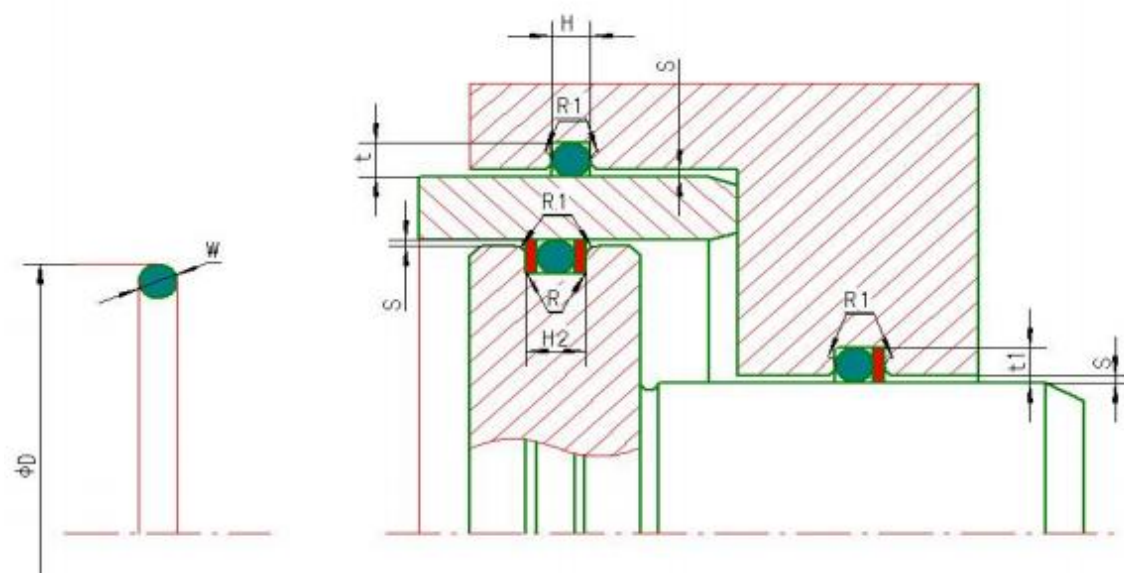
- Simple structure
- Compact design with small part shapes
- Easy to install

Operating conditions

Pressure range: $\leq 40\text{Mpa}$ (Equipped with retaining ring)

Temperature: -45°C $+260^{\circ}\text{C}$ (By material)

Section view



Groove Size

Type L01												
Groove Size of O-ring seals for reciprocating, rotating, and spiral motion												
Section dia. do	Reciprocating and spiral motion					Reciprocating and spiral motion					R	R1
	t1	Groove width				t1	Groove width					
		H	H1	H2	tolerance		H	H1	H2	tolerance		
1.9	1.5	2.5	3.8	5.2	+0.1	1.7	2.1	3.4	4.8		0.2	0.1
2.4	2	3.2	4.5	5.9		2.2	2.6	4	5.4		0.2	0.1
3.1	2.5	4	5.6	7.2		2.9	3.5	5.1	6.7		0.3	0.1
3.5	3	4.5	6.2	7.7		3.3	3.9	5.5	7.1		0.3	0.1
-4.6	4	6.1	7.7	9.4		4.4	5.1	6.7	8.4		0.4	0.2
5.7	5	7.5	9.6	11.7		5.4	6.4	8.5	10.5		0.4	0.2
8.6	7	11	13.6	16.3		8.2	9.6	12.2	14.9		0.5	0.2
Note: When the working pressure of the system is $P \geq 10\text{MPa}$ and subjected to unidirectional compression, place one retaining ring on the other side of the O-ring compression direction. When subjected to bi-directional compression, place two retaining rings on both sides of the O-ring seal.												



Groove Size of fixed O-ring seals (GB1235-76)							
Section dia. W	B	h	A	F	R	R1	Cmin
1.9	2.5 ^{+0.10}	1.4 _{-0.05}	2.6 ^{+0.10}	1.6 _{-0.05}	0.2	0.1	2.5
2.4	3.2 ^{+0.10}	1.8 _{-0.05}	3.2 ^{+0.10}	2.0 _{-0.05}	0.2	0.1	2.5
3.1	4.0 ^{+0.15}	2.4 _{-0.05}	4.2 ^{+0.20}	2.8 _{-0.05}	0.3	0.1	2.7
3.5	4.5 ^{+0.15}	2.7 _{-0.05}	4.7 ^{+0.25}	3.0 _{-0.05}	0.3	0.1	3
4.6	6.1 ^{+0.20}	3.6 _{-0.05}	5.0 ^{+0.30}	4.0 _{-0.05}	0.4	0.2	3.3
5.7	7.5 ^{+0.20}	4.5 _{-0.05}	7.6 ^{+0.30}	5.0 _{-0.05}	0.4	0.2	3.6
8.6	11.0 ^{+0.20}	6.9 _{-0.10}	11.5 ^{+0.40}	7.0 _{-0.10}	0.5	0.2	4.1

Size series table						
Outside diameter D	Section diameter d					
	1.9±0.08	2.4±0.09	3.1±0.10	3.5±0.11	5.7±0.14	8.6±0.16
5	•					
6	•					
7	•					
8	•					
9	•					
10	•					
11	•					
12	•					
13	•					
14	•	•				
15		•				
16		•				
17		•				
18		•				
19		•				
20		•				
21		•				
22		•				
23		•				
24		•				
25		•				
26		•				
28		•	•	•		
29						
30		•	•	•		

Size series table						
Outside diameter D	Section diameter d					
	1.9± 0.08	2.4± 0.09	3.1± 0.10	3.5± 0.11	5.7± 0.14	8.6± 0.16
31				•		
32		•	•	•		
33			•			
34				•		
35			•	•		
36				•		
38			•	•		
40			•	•		
41				•		
42				•		
44						
45			•	•		
46				•		
48				•		
50			•	•	•	
51				•		
54				•		
55			•	•	•	
56				•		
60			•		•	
63			•			
65			•			
68			•			
70			•		•	
73					•	
75			•		•	
80			•		•	
85			•		•	
90			•		•	
95			•		•	
100			•		•	
105			•		•	
110			•		•	
115			•		•	
120			•		•	
125			•		•	
130			•		•	
135			•		•	
140			•		•	



Size series table						
Outside diameter D	Section diameterd					
	1.9± 0.08	2.4± 0.09	3.1± 0.10	3.5± 0.11	5.7± 0.14	8.6± 0.16
145			•		•	
150			•		•	
155			•		•	
160			•		•	
165			•		•	
170					•	•
175					•	•
180					•	•
185					•	•
190					•	•
195					•	•
200					•	•
205					•	•
210					•	•
215						•
220					•	•
225						•
230					•	•
235						•
240					•	•
245						•
250					•	•
255						•
260						•
265						•
270					•	•
275						•
280					•	•
290					•	•
295						•
300					•	•
305						•
310						•
315						•
320						•
330						•
335						•
350						•
355						•

Size series table						
Outside diameter D	Section diameter d					
	1.9± 0.08	2.4± 0.09	3.1± 0.10	3.5± 0.11	5.7± 0.14	8.6± 0.16
360						•
370						•
375						•
380						•
390						•
400						•
415						•
420						•
450						•
480						•
500						•
520						•

XXQ

Standard materials

Seals material: nitrile rubber or fluorine rubber

Application scope

Applied in dynamic sealing applications. Suitable for reciprocating pistons, piston rods, and plungers, and can also be applied to shafts and mandrels in swinging, rotating, and rotating conditions.

Features

- When in reciprocating motion, it will not twist
- Due to the reduction of required radial preload, the contact pressure is small and the friction force is also small
- Due to uniform contact pressure, the leakage is small
- Due to the mold parting surface between the two lips, the flash will not affect the sealing effect
- In dynamic sealing situations, it has long service life and good sealing effect

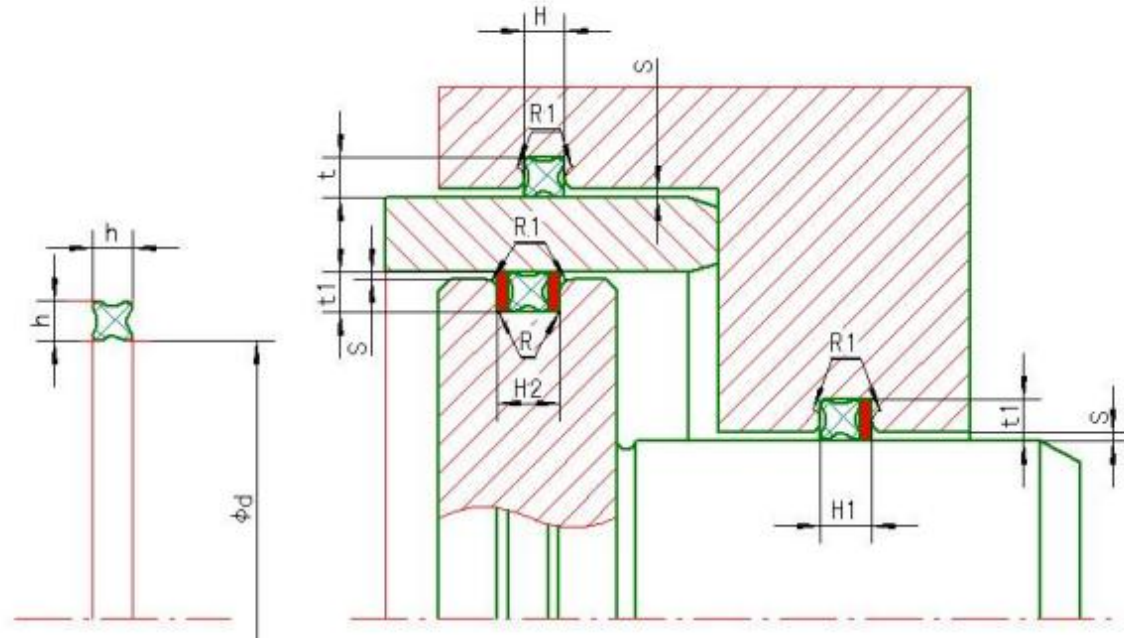
Operating conditions

Speed: $\leq 0.5\text{m/s}$

Pressure range: $\leq 30\text{Mpa}$ (Equipped with retaining ring)

Temperature: -45°C $+260^{\circ}\text{C}$ (By material)

Section view



Groove Size

X-ring section size h	Groove depth		Groove width			R	R1
	Static sealing $t+0.05$	dynamic sealing $t1+0.05$	$H+0.02$	$H2+0.02$	$H1+0.02$		
2.62	2.25	2.3	3	5.8	4.4	0.3	0.2
3.53	3.1	3.2	4	6.8	5.4	0.4	0.2
5.33	4.75	4.9	6	9.4	7.7	0.4	0.2
7	6.2	6.4	8	13	10.5	0.6	0.2

Inside diameter d		Section size h		Art.No.
d	±	h	±	
10.2	0.13	2.62	0.08	FS-XXQ 10.2
12.37	0.13	2.62	0.08	FS-XXQ 12.37
13.94	0.18	2.62	0.08	FS-XXQ 13.94
14.7	0.23	2.62	0.08	FS-XXQ 14.7
16.2	0.23	2.62	0.08	FS-XXQ 16.2
18.2	0.25	3.53	0.1	FS-XXQ 18.2
20.22	0.25	3.53	0.1	FS-XXQ 20.22
21.82	0.25	3.53	0.1	FS-XXQ 21.82
24.99	0.25	3.53	0.1	FS-XXQ 24.99
28.17	0.3	3.53	0.1	FS-XXQ 28.17
29.74	0.3	3.53	0.1	FS-XXQ 29.74
31.34	0.3	3.53	0.1	FS-XXQ 31.34

Inside diameter d		Section size h		Art.No.
d	±	h	±	
34.52	0.3	3.53	0.1	FS-XXQ 34.52
36.09	0.3	3.53	0.1	FS-XXQ 36.09
40.87	0.38	3.53	0.1	FS-XXQ 40.87
44.04	0.38	3.53	0.1	FS-XXQ 44.04
50.39	0.46	3.53	0.1	FS-XXQ 50.39
53.57	0.46	3.53	0.1	FS-XXQ 53.57
56.74	0.51	3.53	0.1	FS-XXQ 56.74
59.92	0.51	3.53	0.1	FS-XXQ 59.92
40.64	0.38	5.33	0.13	FS-XXQ 40.64
45.2	0.38	5.33	0.13	FS-XXQ 45.2
50.39	0.46	5.33	0.13	FS-XXQ 50.39
50.17	0.46	5.33	0.13	FS-XXQ 50.17
53.34	0.46	5.33	0.13	FS-XXQ 53.34
56.52	0.46	5.33	0.13	FS-XXQ 56.52
59.69	0.46	5.33	0.13	FS-XXQ 59.69
62.87	0.51	5.33	0.13	FS-XXQ 62.87
66.04	0.51	5.33	0.13	FS-XXQ 66.04
69.22	0.51	5.33	0.13	FS-XXQ 69.22
75.57	0.61	5.33	0.13	FS-XXQ 75.57
78.74	0.61	5.33	0.13	FS-XXQ 78.74
85.09	0.61	5.33	0.13	FS-XXQ 85.09
88.27	0.61	5.33	0.13	FS-XXQ 88.27
94.62	0.71	5.33	0.13	FS-XXQ 94.62
100.97	0.71	5.33	0.13	FS-XXQ 100.97
104.14	0.71	5.33	0.13	FS-XXQ 104.14
110.49	0.76	5.33	0.13	FS-XXQ 110.49
116.84	0.76	5.33	0.13	FS-XXQ 116.84
120.02	0.94	5.33	0.13	FS-XXQ 120.02
126.37	0.94	7	0.15	FS-XXQ 126.37
129.54	0.94	7	0.15	FS-XXQ 129.54
135.89	0.94	7	0.15	FS-XXQ 135.89
139.07	0.94	7	0.15	FS-XXQ 139.07
145.42	0.94	7	0.15	FS-XXQ 145.42
148.59	0.94	7	0.15	FS-XXQ 148.59
160.5	1.02	7	0.15	FS-XXQ 160.5
170.82	1.02	7	0.15	FS-XXQ 170.82
177.17	1.02	7	0.15	FS-XXQ 177.17
189.87	1.14	7	0.15	FS-XXQ 189.87
202.57	1.14	7	0.15	FS-XXQ 202.57
215.27	1.4	7	0.15	FS-XXQ 215.27
227.97	1.4	7	0.15	FS-XXQ 227.97

Inside diameter d		Section size h		Art.No.
d	±	h	±	
240.67	1.4	7	0.15	FS-XXQ 240.67
253.37	1.4	7	0.15	FS-XXQ 253.37
266.07	1.52	7	0.15	FS-XXQ 266.07
278.77	1.52	7	0.15	FS-XXQ 278.77
304.17	1.52	7	0.15	FS-XXQ 304.17
316.87	1.52	7	0.15	FS-XXQ 316.87
329.57	1.52	7	0.15	FS-XXQ 329.57
354.97	1.79	7	0.15	FS-XXQ 354.97
380.37	1.79	7	0.15	FS-XXQ 380.37
393.07	1.79	7	0.15	FS-XXQ 393.07
405.26	1.9	7	0.15	FS-XXQ 405.26
456.06	2.15	7	0.15	FS-XXQ 456.06
481.76	2.29	7	0.15	FS-XXQ 481.76
494.16	2.29	7	0.15	FS-XXQ 494.16
506.86	2.41	7	0.15	FS-XXQ 506.86
532.26	2.41	7	0.15	FS-XXQ 532.26
557.66	2.55	7	0.15	FS-XXQ 557.66
608.08	2.8	7	0.15	FS-XXQ 608.08



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