

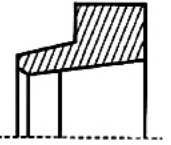
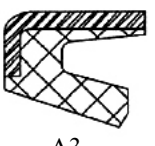
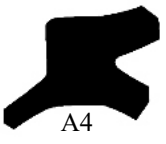
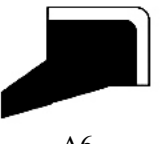
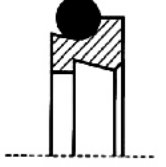
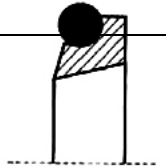
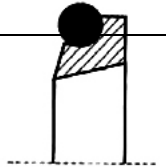
Material property comparison table

Polyurethanes				Rubber Elastomers					Thermoplastics						
Properties	DIN	Unit	PU	NBR	H-NBR	FKM	EPDM	MVQ	POM	PTFE1	PTFE2 +15% fiberglass +5% molybdenum sulfide	PTFE3 +40% copper powder	PTFE4 +25% carbon fiber	PA	PEEK
Colour		ShoreA	Blue Green	Black	Black	Brown	Black	Reddish -brown	Black	White	Gray	Brown	Black	Black	Milk white
Hardness	53505	ShoreD	95±2	85±5	85±5	83±5	85±5	85±5	82	57	60	64	65	77	86
Hardness	53505	g/cm3	48±3						1.41	2.17	2.25	3.00	2.10	1.15	1.32
Density	53479	N/mm2	1.20	1.31	1.22	2.30	1.22	1.52							
100%modulus	53504	%	≥12	≥11	≥10	≥5	≥9	≥5	62	27	18	22	15	65	97
Tensile strength/yield stress	53504/53455		≥40	≥16	≥18	≥8	≥12	≥7	≥40	>300	≥200	≥280	180	120	≥50
Elongation at break	53504/53455		≥430	≥130	≥180	≥200	≥110	≥130	2600					1800	3600
Tensile test	53457														
70°C h20% Def compression set 100°C /2420%Del 100°C /22h 175°C /24ti		%	≤30												
	53517	%	≤35												
	53517	%		≤33	≤22		≤15	≤15							
Rebound resilience	52512	%	42	28	29	7	38	44							
Tear strength	53515	N/mm	≥100	20	30	21	15	8							
Abrasion	53516	mm3	18	90	90	150	120								
Minimum service temperature		°C	-35	-30	-25	-20	-50	-60	-50	-200	-200	-200	-200	-40	
Maximum service temperature		°C	+110	+110	+150	+200	+150	+200	+100	+260	+260	+260	+260	+100	260

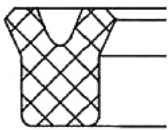
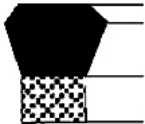
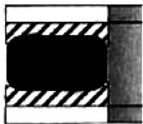
Material and medium comparison table

Materials \ Medium	Mineral lubricating oil						Hydraulic oil				Hydraulic oil				Alkene oil			Water and chemicals								
	Engine oil	Machine oil	Gear oil	Spindle oil	Refrigerator oil	Silicone oil and grease	Turbine oil	HM anti-wear hydraulic oil	HIFA high water-base fluid	HFB water-in-oil emulsion	HFB water-glycol fluid	HFD phosphate ester synthetic solution	Biodegradable hydraulic oil	Brake oil	Heavy oil	Naphtha	Petrol	Water	Hot water and seawater	Hot steam	Fluorinated and aromatic hydrocarbons	Concentrated alkali	Diluted hydrochloric acid	Diluted sulfuric acid	Alcohol	
PU	Good	Good	Good	Good	Good	Applicable	Good	Good	Applicable	Applicable	N/A	N/A	Applicable	N/A	Good	Good	Good	Applicable	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
NBR	Good	Good	Good	Good	Good	Applicable	Good	Good	Good	Good	Good	N/A	Applicable	N/A	Applicable	Good	Good	Good	Applicable	Good	N/A	Good	N/A	Good	Good	
H-NBR	Good	Good	Good	Good	Good	Applicable	Good	Good	Good	Good	Good	N/A	Applicable	N/A	Applicable	Good	Good	Good	Applicable	Good	N/A	Good	N/A	Good	Good	
FKM	Good	Good	Applicable	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	N/A	Good	Good	Good	Good	Applicable	Good	Good	Applicable	Good	Good	Good	
EPDM	N/A	N/A	N/A	N/A	N/A	Applicable	N/A	N/A	N/A	N/A	Good	Good	N/A	N/A	N/A	N/A	N/A	Good	Good	Good	N/A	Good	Good	N/A	Good	
MVQ	Good	Good	Applicable	Applicable	Applicable	N/A	Good	Good	Good	Good	Applicable	Good	Applicable	Good	N/A	N/A	N/A	Good	Good	Good	N/A	Applicable	N/A	N/A	Good	
PTFE1	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Applicable	Applicable	Applicable	Good	Good	Good	Good	Good	
PTFE2 (filled with fiberglass · molybdenum disulfide)	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Applicable	Applicable	Applicable	Good	Good	Good	Good	Good	
PTFE3 (filled with copper powder)	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Applicable	Applicable	Applicable	Good	Good	Good	Good	Good	
PTFE4 (filled with carbon fiber)	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Applicable	Applicable	Applicable	Good	Good	Good	Good	Good	

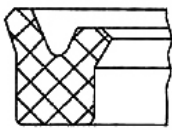
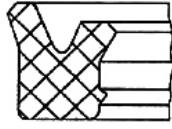
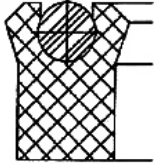
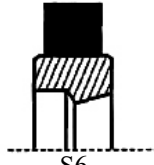
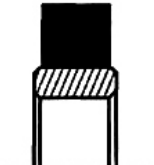
Technical Parameters of Dust Seal

Type	Overview	Materials	Temperature	Speed	Pressure	Page
 A1	Standard dust seal, for unidirectional movement, mounted by pressing outside diameter, to effectively prevent the entry of dust and dirt.	PU NBR	-35°C +110°C -30°C +110°C	2m/s		2
 A2	Standard dust seal, for unidirectional movement, mounted by pressing outside diameter, to effectively prevent the entry of dust and dirt.	PU NBR	-35°C +110°C -30°C +110°C	2m/s		3 ~ 5
 A3	Dust seal, for unidirectional movement, with interference fit of groove outside diameter to metal, to fit the dust seal firmly in the proper position of axial split groove.	PU + Iron casing	-35°C +110°C	2m/s		6
 A4	Double-lip dust seal, for bidirectional movement, to prevent the entry of dust, dirt, sand and metal chips, enjoying good dust and oil scraping effect.	PU NBR	-35°C +110°C -30°C +110°C	2m/s		7 ~ 9
 A5	Metal-cased double-lip dust seal, for bidirectional movement, with interference fit of groove outside diameter to metal casing, to prevent the entry of dust, dirt, sand and metal chips, enjoying good dust and oil scraping effect.	PU+metal casing NBR+metal casing	-35°C +110°C -30°C +110°C	2m/s		10 ~ 11
 A6	Metal-cased single-lip dust seal, to prevent the entry of dust, dirt, sand and metal chips, enjoying good dust scraping effect.	PU NBR	-35°C +110°C -30°C +110°C	2m/s		12 14
  A8	Standard hydraulic pneumatic PTFE dust seal, for bidirectional movement, with an O-ring to effectively prevent the entry of dirt and dust, enjoying corrosion resistance, high temperature resistance, and good oil scraping effect.	PTFE + NBR PTFE + FKM	-30°C +110°C -20°C +200°C	10m/s		15 ~ 17
 A8	Standard hydraulic pneumatic PTFE dust seal, for unidirectional movement, with an O-ring to effectively prevent the entry of dirt and dust, enjoying corrosion resistance and high temperature resistance.	PTFE + NBR PTFE + FKM	-30°C +110°C -20°C +200°C	10m/s		18 ~ 19

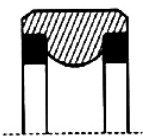
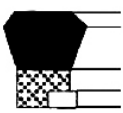
Technical Parameters of Piston and Rod Seal

Type	Overview	Materials	Temperature	Speed	Pressure	Page
 T1	Standard piston and rod seal, for unidirectional movement, also serving as the auxiliary seal of PTFE combined seal S5. (Piston and rod seal)	PU NBR FKM	-35°C +110°C -30°C +110°C -20°C +200°C	0.5m/s	400bar (40Mpa) 160bar (16Mpa)	22 ~ 37
 T2	Standard piston and rod seal, moved unidirectionally. (Piston and rod seal)	NBR + NBR impregnated cotton	-30°C +90°C	0.5m/s	200bar (20Mpa)	38 ~ 40
 T3	Single-acting one-piece seal, specially designed for telescopic cylinder. (Piston and rod seal)	NBR + NBR impregnated cotton + PU	-30°C +90°C	0.5m/s	400bar (40Mpa)	41
 T4	Single-acting seal. (Piston and rod seal)	NBR + NBR impregnated cotton	-30°C +90°C	0.5m/s	170bar (17Mpa)	42
 T5	Low-friction single-acting seal. (Piston and rod seal)	NBR + NBR impregnated cotton	-30°C +90°C	0.5m/s	200bar (20Mpa)	43
 T6	Low-friction single-acting seal. (Piston and rod seal)	NBR impregnated cotton	-30°C +90°C	0.5m/s	175bar (17Mpa)	44 ~ 46
 T7	Double-acting two-piece piston seal. (Piston and rod seal)	NBR + POM + PU	-30°C +90°C	0.5m/s	400bar (40Mpa)	47
 T8	Compact seal, with small radial mounting space, mainly used for multi-stage cylinders and other applications where the seal mounting size is limited. (Piston and rod seal)	PU	-30°C +110°C	0.5m/s	400bar (40Mpa)	48 ~ 50

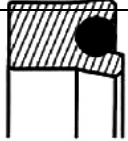
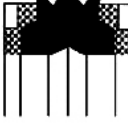
Technical Parameters of Rod Seal

Type	Overview	Materials	Temperature	Speed	Pressure	Page
 S1	Standard rod seal, for unidirectional movement, also serving as the auxiliary seal of PTFE combined seal S5. Other materials are also available.	PU NBR FKM	-35°C +110°C -30°C +110°C -20°C +200°C	0.5m/s	400bar (40Mpa) 160bar (16Mpa) 160bar (16Mpa)	51 ~ 56
 S2	Standard rod seal, for unidirectional movement, with a high performance auxiliary lip, mostly used in long stroke cylinders and travel machinery.	PU NBR FKM	-35°C +11 °C -30°C +110°C -20°C +200°C	0.5m/s	400bar (40Mpa) 160bar (16Mpa) 160bar (16Mpa)	57 ~ 60
 S3	Standard rod seal, for unidirectional movement, used for simple standard applications.	PU	-35°C +110°C	0.5m/s	400bar (40Mpa)	61 ~ 66
 S4	PTFE (PU) seal, for unidirectional movement, with Mander spring, enjoying low friction, high resistance to dry wear, and high temperature corrosion resistance, mostly used in chemical, pharmaceutical and food industries.	PTFE + Spring Mander	-200°C +260°C	15m/s	450bar (45Mpa)	67 ~ 68
 S5	Standard PTFE piston seal, for unidirectional movement, enjoying low friction and good positioning performance, suitable for very low speed and very high speed, mostly used in mobile machinery, machine tools, injection molding machinery and heavy hydraulic machinery.	PTFE/NBR PTFE/FKM	-30°C +110°C -20°C +200°C	15m/s	400bar (40Mpa)	69 ~ 71
 S6	Standard PTFE piston seal, for unidirectional movement, enjoying low friction and good positioning performance, suitable for very low speed and very high speed, mainly used in heavy hydraulic machinery and applications with special groove dimensions.	PTFE/NBR PTFE/FKM	-30°C +110°C -20°C +200°C	15m/s	400bar (40Mpa)	72 ~ 73
 S7	Standard PTFE piston seal, for bidirectional movement, enjoying low friction and good positioning performance, suitable for very low speed and very high speed, mostly used in mobile machinery, machine tools, injection molding machinery and heavy hydraulic machinery.	PTFE/NBR PTFE/FKM	-30°C +110°C -20°C +200°C	15m/s	400bar (40Mpa)	74 ~ 76
 S8	Standard PTFE piston seal, for bidirectional movement, enjoying low friction and good positioning performance, suitable for very low speed and very high speed, mainly used in heavy hydraulic machinery and applications with special groove dimensions.	PTFE/NBR PTFE/FKM	-30°C +11°C -20°C +200°C	15m/s	400bar (40Mpa)	77

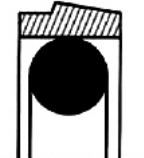
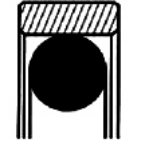
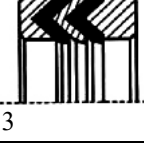
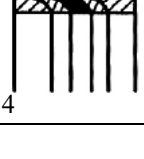
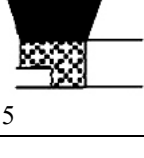
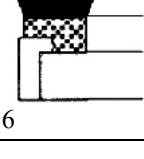
Technical Parameters of Rod Seal

Type	Overview	Materials	Temperature	Speed	Pressure	Page
 S9	Combined rod seal, for bidirectional movement, suitable for standard O-ring groove, enjoying stronger anti-twist deformation performance during movement with the design of the outside diameter.	POM/NBR POM/FKM	-30°C +110°C -20°C +200°C	1m/s	500bar (50Mpa) 500bar (50Mpa)	78
 S10	Combined rod V-ring, moving unidirectionally, enjoying high sealing performance under high pressure condition, mainly used in heavy hydraulic machinery.	NBR impregnated cotton FKM impregnated cotton	-30°C +110°C -20°C +200°C	0.5m/s	600bar (60Mpa) 600bar (60Mpa)	79 ~ 84
 S11	Combined PTFE rod V-ring, for unidirectional movement, with symmetrical V-piece design, enjoying good high-pressure performance, mostly used in pharmaceutical and chemical and food industries.	Filled with PTFE	-200°C +260°C	1.5m/s	315bar (31.5Mpa)	85 ~ 86
 S12	Single-acting anti-extrusion seal	NBR impregnated cotton + POM	-30°C +90°C	0.5m/s	400bar (40Mpa)	87 ~ 90
 S13	Single-acting anti-extrusion seal	NBR impregnated cotton + POM	-30°C +90°C	0.5m/s	700bar (70Mpa)	91 ~ 92

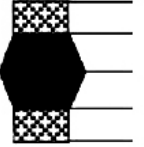
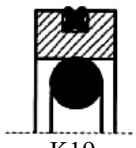
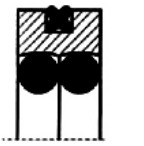
Technical Parameters of Rod Seal

Type	Overview	Materials	Temperature	Speed	Pressure	Page
 K1	Standard piston seal, for unidirectional movement, stably embedded in the groove, enjoying wide temperature range. It can also serve as an auxiliary seal for PTFE combined seal K10.	PU NBR FKM	-35℃ +110℃ -30℃ +110℃ -20℃ +200℃	0.5m/s	400bar (40Mpa) 160bar (16Mpa) 160bar (16Mpa)	94 ~ 100
 K2	Standard piston seal, for unidirectional movement, suitable for higher pressure and larger extrusion gap, mainly used for standard grooves.	PU + POM	-35℃ +110℃	0.5m/s	700bar (70Mpa)	101
 K3	Standard piston seal, for unidirectional movement, more stably embedded in the groove and providing good sealing effect due to the preload action of O-ring, especially suitable for short strokes.	PU + NBR	-35℃ +110℃	0.5m/s	400bar (40Mpa)	102
 K4	Piston seal, same as K2, but suitable for higher pressure and larger extrusion gap, mainly used for narrow grooves.	PU + NBR + POM	-35℃ +110℃	0.5m/s	700bar (70Mpa)	★
 K5	Combined piston seal, for bidirectional movement, consisting of guide ring, seal body and elastomer with good sealing performance, mostly used in standard hydraulic cylinders.	PU + NBR + POM	-35℃ +110℃	0.5m/s	400bar (40Mpa)	103 ~ 104
 K6	Combined piston seal, for bidirectional movement, enjoying good sealing performance, especially suitable for smaller grooves.	PU NBR	-35℃ +110℃	0.5m/s	250bar (25Mpa)	105
 K7	Double-acting solid piston seal	POM NBR NB impregnated cotton	-35℃ +110℃	0.5m/s	500bar (50Mpa)	106 ~ 107
 K8	Standard piston seal, for unidirectional movement, mainly used in heavy hydraulic applications and applications with special groove dimensions.	PTFE/NBR PTFE/FKM	-30℃ +110℃ -20℃ +200℃	15m/s	400bar (40Mpa)	108 ~ 110

Technical Parameters of Rod Seal

Type	Overview	Materials	Temperature	Speed	Pressure	Page
 K9	Standard piston seal, for bidirectional movement, enjoying low friction and good positioning performance, suitable for applications with extremely low speed and extremely high speed, mostly used in mobile machinery, machine tools, injection molding machinery and heavy hydraulic machinery.	PTFE/NBR PTFE/FKM	-30°C +110°C -20°C +200t)	15m/s	400bar (40Mpa)	111 112
 K10	Standard piston seal, for unidirectional movement, enjoying low friction and good positioning performance, suitable for applications with extremely low speed and extremely high speed.	PTFE/NBR PTFE/FKM	-30°C +110°C -20°C +200°C	15m/s	400bar (40Mpa)	113 115
 K11	Standard piston seal, for bidirectional movement, enjoying low friction and good positioning performance, suitable for applications with extremely low speed and extremely high speed, mostly used in mobile machinery, machine tools, injection molding machinery and heavy hydraulic machinery.	PTFE/NBR PTFE/FKM	-30°C +110°C -20°C +200°C	15m/s	400bar (40Mpa)	116 118
 K12	Combined piston seal, for bidirectional movement, suitable for standard O-ring groove, enjoying stronger anti-twist deformation performance during movement with the design of the outside diameter.	POM/NBR POM/FKM	-30°C +110°C -20°C +200°C	1m/s	500bar (50Mpa) 500bar (50Mpa)	119 120
 K13	Combined piston V-ring, for unidirectional movement, enjoying high sealing performance under high pressure condition, mainly used in heavy hydraulic and hydraulic machinery.	NBR impregnated cotton FKM impregnated cotton	-30°C +110°C -20°C +200°C	0.5m/s	600bar (60Mpa) 600bar (60Mpa)	121 122
 K14	Combined PTFE piston V-ring, for unidirectional movement, with symmetrical V-piece design, enjoying good high-pressure performance, mostly used in pharmaceutical and chemical and food industries.	Filled with PTFE	-200°C +260°C	1.5m/s	315bar (31.5Mpa)	123 124
 K15	Single-acting anti-extrusion piston seal	NBR impregnated cotton POM NBR	-30°C +90°C	0.5m/s	400bar (40Mpa)	125 126
 K16	Single-acting piston seal	NBR impregnated cotton POM NBR	-30°C +90°C	0.5m/s	400bar (40Mpa)	127 128

Technical Parameters of Rod Seal

Type	Overview	Materials	Temperature	Speed	Pressure	Page
 K17	Low-friction single-acting piston seal with anti-extrusion ring.	NBR impregnated cotton POM NBR	-30°C +90°C	0.5m/s	400bar (40Mpa)	129
 K18	Double-acting two-piece piston seal.	NBR impregnated cotton POM NBR	-30°C +90°C	0.5m/s	700bar (70Mpa)	130 131
 K19	New piston seal, a combined seal consisting of a PTFE seal (concave seal), an X-ring and an O-ring.	PTFE/NBR PTFE/FKM	-30°C +110°C -20°C +200°C	2m/s	400bar (40Mpa)	132 133
 K20	New piston seal, a combined elastic PTFE seal (concave seal) consisting of one X-ring and two O-rings, enjoying excellent performance for sealing liquid or gas when used as static or dynamic seal.	PTFE/NBR PTFE/FKM	-30°C +110°C -20°C +200°C	3m/s	400bar (40Mpa)	134 136
 K21	Piston seal for low-pressure hydraulic linear reciprocating movement	NBR	-25°C +100°C	<1m/s	50bar (5Mpa)	137

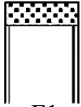
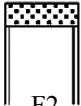
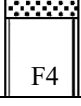
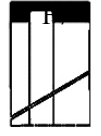
Technical Parameters of Pneumatic Seal

Type	Overview	Materials	Temperature	Speed	Pressure	Page
 Q1	Valve spool seal for pneumatic solenoid valve	NBR	-20°C +100°C	1m/s	10bar (1Mpa)	139
 Q2	Pneumatic piston seal	NBR	-20°C +80°C	1m/s	10bar (1Mpa)	140 ~ 141
 Q3	Pneumatic rod dust seal	NBR	-20°C +80°C	1m/s	10bar (1Mpa)	142 ~ 143
 Q4	Pneumatic piston seal	NBR	-20°C +80°C	<0.7m/s	10bar (1Mpa)	144 ~ 145
 Q5	Pneumatic piston and rod seal	NBR	-20°C +80°C	<0.5m/s	10bar (1Mpa)	146 ~ 147
 Q6	Pneumatic rod seal	NBR	-20°C +80°C	<0.7m/s	10bar (1Mpa)	148
 Q7	Pneumatic piston seal	NBR	-30°C +110°C	<1m/s	16bar (1.6Mpa)	149
 Q8	Pneumatic piston seal	NBR	-25°C +120°C	<1m/s	80bar (8Mpa)	150

Technical Parameters of Pneumatic Seal

Type	Overview	Materials	Temperature	Speed	Pressure	Page
 Q9	Pneumatic wiper seal	NBR	-30°C +100°C	<1.5m/s	12bar (1.2Mpa)	151
 Q10	Pneumatic rod seal	NBR	-30°C +120°C	<1m/s	16bar (1.6Mpa)	152
 Q11	Pneumatic piston seal	NBR	-20°C +80°C	<1m/s	10bar (1 Mpa)	153
 Q12	Pneumatic dust seal	NBR	-20°C +140°C	<1m/s	10bar (1 Mpa)	154
 Q13	Pneumatic reciprocating piston seal	NBR	-25°C +100°C	<1m/s	10bar (1 Mpa)	155

Technical Parameters of Pneumatic Seal

Type	Overview	Materials	Temperature	Speed	Pressure	Page
 F1	Standard guide ring, suitable for piston and rod guide of oil (gas) cylinder, most split type.	Phenolic resin	-50°C +160°C	<1m/s		157 ~ 158
 F2	Standard guide ring, suitable for piston and rod guide of oil (gas) cylinder, most split type.	Filled with PTFE	-70°C +260°C	<15m/s		159
 F3	Standard guide ring, suitable for piston and rod guide of oil (gas) cylinder, most split type.	PTFE + 40% copper powder and molybdenum disulfide PTFE + Fiberglass	-200°C +260°C	<15m/s		160
 F4	Heavy-load guide ring.	Nylon	-60°C +150°C	<1m/s		161
 F5	Guide dust seal	Filled with PTFE	-55°C +120°C	<3m/s		162 ~ 163
 F6	Inner guide ring	Filled with PTFE	-60°C +150°C	<1m/s		164
 F7	Outer guide ring	Filled with PTFE	-55°C +120°C	<3m/s		165 ~ 166
 F8	Pneumatic Q7 guide ring	Resin	-25°C +80°C	<1m/s		167

The main cause of seal breakage and shortened seal life of hydraulic systems is that contaminant particles enter the system through the piston rod, and the use of dust seals is to prevent this from happening. Therefore, the dust seal should be selected according to the specifications, and the environmental impact and working conditions should also be taken into consideration:

Basically, a dust seal should be mounted for all hydraulic cylinders to prevent external dirt from entering into the system:

By type: single-acting dust seal and double-acting dust seals.

Single-acting dust seal: When the piston rod returns, the dust seal will scrape off the dirt adhering to the surface of the rod, to protect the seal ring and guide sleeve from damage, such as A1, A2, A3, A6 and A8.

Double-acting dust seal: In addition to the dust-proof function, it also has an auxiliary sealing function, the inner lip of which scrapes off the oil film adhering to the surface of the rod, thus improving the sealing effect, such as A4, A5, and A7.

Metal-cased dust seal

With metal skeleton, such as A3, A5, and A6

Without metal skeleton, such as A1, A2, and A4

By material: Rubber dust seal, PU dust seal, and PTFE dust seal.

Function:

Metal skeleton reinforced dust seal

Its main role is to fix the shape and position of the dust seal lip, to ensure that it has a reliable mounting pressure in the open groove. In order to maintain its reliable position in the groove under extreme working conditions, the metal skeleton must be oriented, with the hardest edge of the flange fixed at the bottom of the groove; otherwise, the metal skeleton is extremely vulnerable to vibration.

Non-reinforced dust seal

The non-reinforced dust seal is mounted in a closed groove and is not as effective as the metal-reinforced dust seal because it does not have sufficient contact pressure relative to the piston rod surface.

Double-acting dust seal

In some cases, it is required to use a double-acting dust seal; in addition to the dust-proofing effect, it will also return the oil on the piston rod to the system. In medium-load working conditions, it is recommended to use a PU double-acting dust seal. In order to obtain the best dust-proofing effect under medium-load or heavy-load working conditions, such as strenuous and prolonged movement of construction equipment, a metal skeleton reinforced double-acting dust seal should be used.

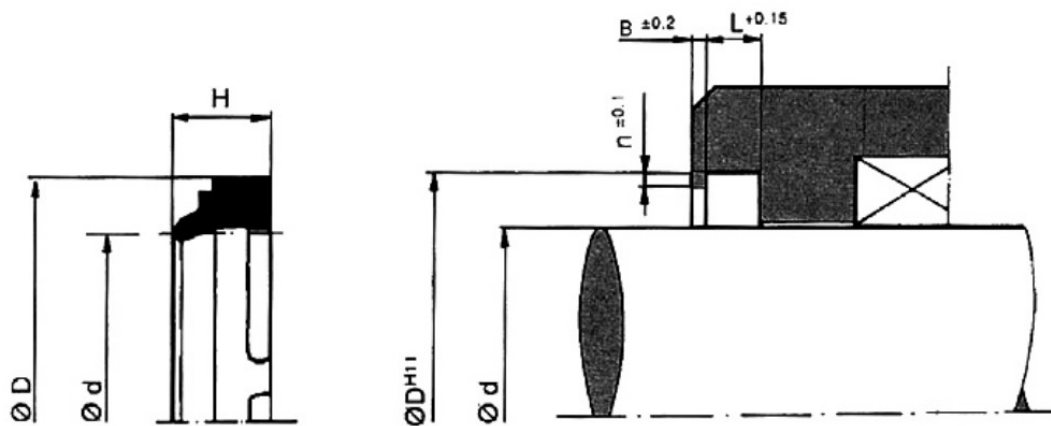
Anti-corrosive dust seal

In special applications with corrosive medium, high temperature or low-temperature friction, a PTFE dust seal should be used to meet the requirements of corrosive medium, high temperature and small batch production. The PTFE dust seal is machined without using mold, so it can easily adapt to the dimensions of existing grooves.



Dust Seal

FOLON A



PLU, NBR

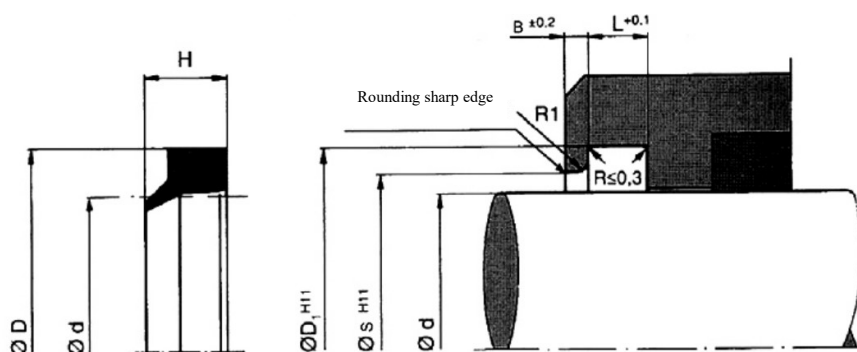
d	D	H	L	B	n	d	D	H	L	B	n
12	20	7	4	1	1	80	88	7	4	1	1
14	22	7	4	1	1	85	93	7	4	1	1
16	24	7	4	1	1	90	98	7	4	1	1
18	26	7	4	1	1	95	103	7	4	1	1
20	28	7	4	1	1	97	105	7	4	1	1
22	30	7	4	1	1	100	108	7	4	1	1
25	33	7	4	1	1	105	117	10	5.5	1.5	1.5
28	36	7	4	1	1	110	122	10	5.5	1.5	1.5
30	38	7	4	1	1	120	132	10	5.5	1.5	1.5
32	40	7	4	1	1	125	137	10	5.5	1.5	1.5
35	43	7	4	1	1	128	140	10	5.5	1.5	1.5
36	44	7	4	1	1	130	142	10	5.5	1.5	1.5
38	46	7	4	1	1	140	152	10	5.5	1.5	1.5
40	48	7	4	1	1	145	157	10	5.5	1.5	1.5
42	50	7	4	1	1	150	162	10	5.5	1.5	1.5
45	53	7	4	1	1	160	172	10	5.5	1.5	1.5
48	56	7	4	1	1	166	178	10	5.5	1.5	1.5
50	58	7	4	1	1	170	182	10	5.5	1.5	1.5
55	63	7	4	1	1	180	192	10	5.5	1.5	1.5
56	64	7	4	1	1	190	202	10	5.5	1.5	1.5
60	68	7	4	1	1	200	212	10	5.5	1.5	1.5
62	70	7	4	1	1	220	235	13	6.5	2	2
63	71	7	4	1	1	230	245	13	6.5	2	2
65	73	7	4	1	1	240	255	13	6.5	2	2
70	78	7	4	1	1	260	275	13	6.5	2	2
75	83	7	4	1	1	275	290	13	6.5	2	2
78	86	7	4	1	1	325	340	13	6.5	2	2

The above sizes are commonly used specifications, and other specifications are available for order.

Dust Seal



FOLON-A



PLU, NBR

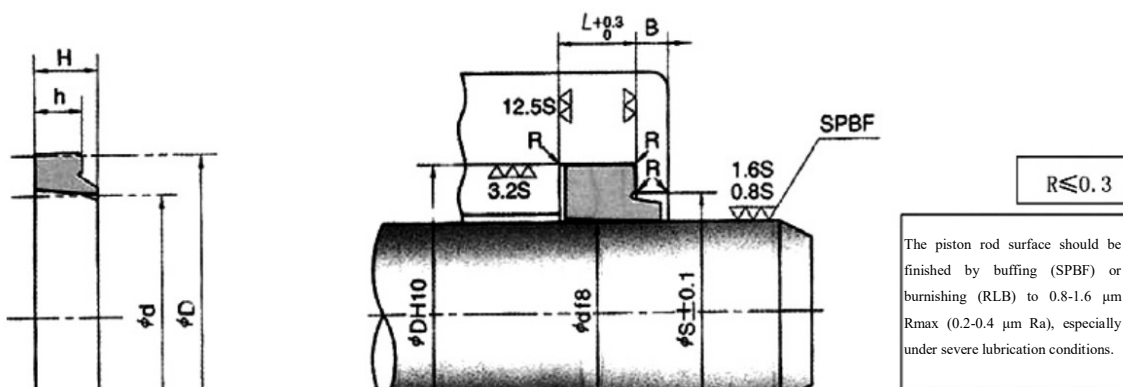
d	D	H	D1	S	L	B	d	D	H	D1	S	L	B
5	8	3	8.6	6.9	2.3	1	75	88	7	88.6	78	5.3	2
19	25.4	4	26	22	2.8	1.2	80	88	7	88.6	83	5.3	2
20	28	7	28.6	23	5.3	2	80	92	12	92.2	86	7.1	5
22	30	7	30.6	25	5.3	2	85	93	7	93.6	88	5.3	2
25	33	7	33.6	28	5.3	2	85	97	12	97.2	91	7.1	5
28	36	7	36	31	5.3	2	90	98	7	98.6	93	5.3	2
30	38	7	38.6	33	5.3	2	90	102	12	102.2	96	7.1	5
32	40	7	40.6	35	5.3	2	92	100	7	100.6	95	5.3	2
35	43	7	43.6	38	5.3	2	95	103	7	103.6	98	5.3	2
36	44	7	44.6	39	5.3	2	100	108	7	108.8	103	5.3	2
40	48	7	48.6	43	5.3	2	100	112	12	112.2	106	7.1	5
42	50	7	50.6	45	5.3	2	105	113	7	113.6	108	5.3	2
45	53	7	53.6	48	5.3	2	105	120	12	120.2	111	7.1	5
45	55	7	55.6	48	5.3	2	110	118	7	118.6	113	5.3	2
46	54	7	54.6	49	5.3	2	110	122	12	122.2	116	7.1	5
50	58	7	58.6	53	5.3	2	112	120	7	120.6	115	5.3	2
50	60	7	60.6	53	5.3	2	115	123	7	123.6	118	5.3	2
55	63	7	63.6	58	5.3	2	115	125	7	125.6	118	5.3	2
55	65	7	65.6	58	5.3	2	115	127	12	127.2	121	7.1	5
56	66	7	66.6	59	5.3	2	118	128	7	128.6	121	5.3	2
60	68	7	68.6	63	5.3	2	120	132	12	132.2	126	7.1	5
60	70	7	70.6	63	5.3	2	125	133	7	133.6	128	5.3	2
63	71	7	71.6	66	5.3	2	125	137	12	137.2	131	7.6	4.5
63	73	7	73.6	66	5.3	2	125	140	16	140	132.0	10.1	6
64	72	7	72.6	67	5.3	2	127	136.5	7	137.1	130	5.3	2
65	73	7	73.6	68	5.3	2	130	142	12	142.2	136	7.1	5
65	75	7	75.6	68	5.3	2	140	148	7	148.6	143	5.3	2
70	78	7	78.6	73	5.3	2	140	152	12	152.2	146	7.1	5
70	80	7	80.6	73	5.3	2	140	155	16	155	147	10.1	6
70	82	12	82	73	7.1	5	143	151	7	151.6	146	5.3	2
75	83	7	83.6	78	5.3	2	143	153	7	153.6	146	5.3	2
75	87	12	87	81	7.1	5	145	153	7	152.6	148	5.3	2

The above sizes are commonly used specifications, and other specifications are available for order.



Dust Seal

FOLON-A



NBR

d	D	h	H
6.3	14.3	4.5	6
10	16	4.5	6
11.2	17	4.5	6
12.5	18	4.5	6
14	19.2	4.5	6
15	20.5	4.5	6
16	24	4.5	6
18	26	4.5	6
20	28	4.5	6
22.4	30.4	4.5	6
23.5	31.5	4.5	6
28	33	4.5	6
30	36	4.5	6
31.5	38	5	6.5
35	39.5	5	6.5
35.5	43.5	5	6.5
40	48	5	6.5
45	53.5	5	6.5
45.5	58	5	6.5
50	61	5	6.5
54.5	62.5	5	6.5
56	63	5	6.5
60	64	5	6.5
62	68	5	6.5
63	70	5	6.5
65	71	5	6.5
67	75	5	6.5
70	80	6	8
71	81	6	8
75	85	6	8
76	86	6	8
80	90	6	8
85	95	6	8
90	100	6	8
95	105	6	8
97	107	6	8

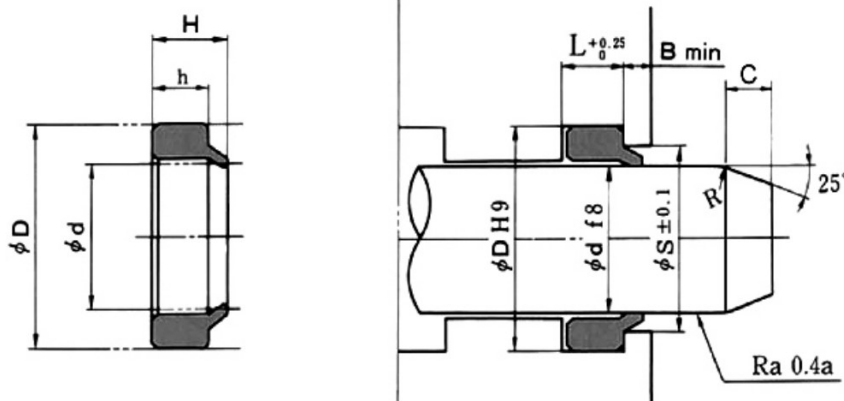
d	D	h	H
100	110	6	8
105	115	6	8
106	116	6	8
110	120	6	8
112	122	6	8
118	128	6	8
120	130	6	8
125	138	7	9.5
130	143	7	9.5
132	145	7	9.5
140	153	7	9.5
145	158	7	9.5
150	163	7	9.5
155	168	7	9.5
160	173	7	9.5
170	183	7	9.5
175	188	7	9.5
180	193	7	9.5
185	198	7	9.5
190	203	7	9.5
199	212	7	9.5
200	213	7	9.5
204	217	7	9.5
210	223	7	9.5
215	228	7	9.5
220	233	7	9.5
224	237	7	9.5
225	238	7	9.5
230	243	7	9.5
240	253	7	9.5
250	263	7	9.5
260	275	7	9.5
270	285	7	12
289	295	7	12
290	305	7	12
300	315	7	12

The above sizes are commonly used specifications, and other specifications are available for order.

Dust Seal



FOLON-A



NBR

(SER series)

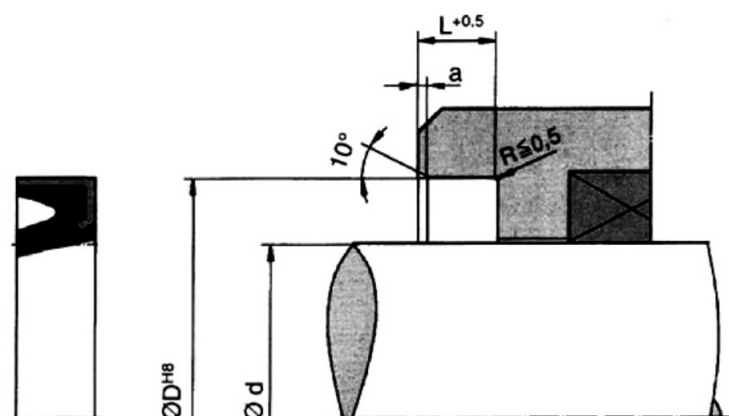
d	D	H	h	L	S	B
3	6	2.75	2	2.5	4.5	1.5
4	7	2.75	2	2.5	5.5	1.5
5	8	2.75	2	2.5	6.5	1.5
6	9	2.75	2	2.5	7.5	1.5
7	10	2.75	2	2.5	8.5	1.5
8	11	2.75	2	2.5	9.5	1.5
9	12	2.75	2	2.5	10.5	1.5
10	13	2.75	2	2.5	11.5	1.5
10	14	3.9	2.9	3.2	12	1.5
11.2	15.2	3.9	2.9	3.2	13.2	1.5
12	16	3.9	2.9	3.2	14	1.5
12.5	16.5	3.9	2.9	3.2	14.5	1.5
14	18	3.9	2.9	3.2	16	1.5
15	19	3.9	2.9	3.2	17	1.5
16	20	3.9	2.9	3.2	18	1.5
18	22	3.9	2.9	3.2	20	1.5
20	24	3.9	2.9	3.2	22	1.5
22	26	3.9	2.9	3.2	24	1.5
22	28	5.8	4.3	4.7	25	2
22.4	28.4	5.8	4.3	4.7	25.4	2
24	30	5.8	4.3	4.7	27	2
25	31	5.8	4.3	4.7	28	2
26	32	5.8	4.3	4.7	29	2
28	34	5.8	4.3	4.7	31	2
30	36	5.8	4.3	4.7	33	2
31	37	5.8	4.3	4.7	34	2
31.5	37.5	5.8	4.3	4.7	34.5	2
32	38	5.8	4.3	4.7	35	2
34	40	5.8	4.3	4.7	37	2
35	41	5.8	4.3	4.7	38	2

The above sizes are commonly used specifications, and other specifications are available for order.



Dust Seal

FOLON-A



PU

d	D	L	a
36	48	6	1
40	52	6	1
45	60	7.5	1
50	65	7.5	1
56	70	7.5	1
63	78	7.5	1
65	79	8	1.5
70	84	8	1.5
75	89	8	1.5
76.5	96.5	10	2
80	94	8	1.5
85	99	8	1.5
90	104	8	1.5
95	109	8	1.5
100	114	8	1.5
110	130	10	2
120	140	10	2

JIS

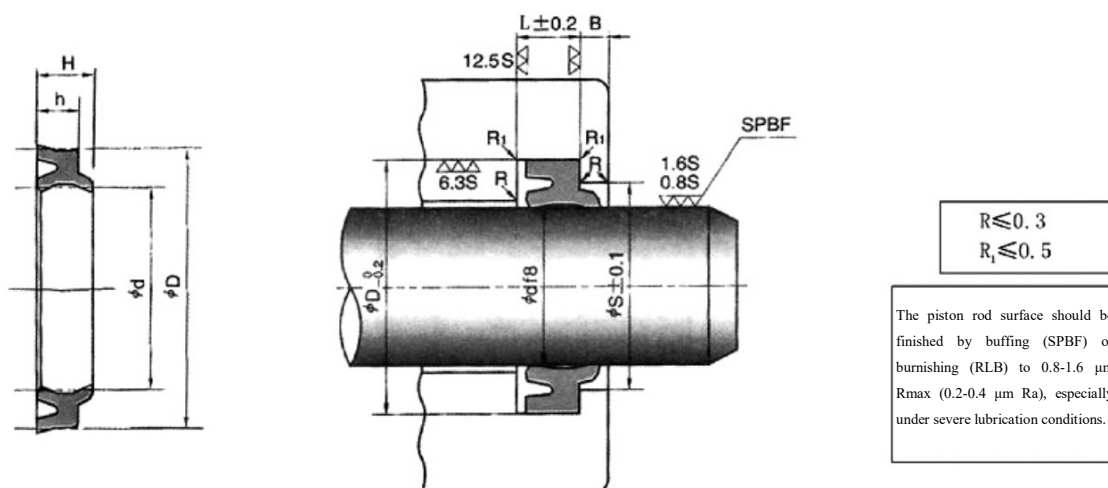
d	D	L	a
29	41.2	6.5	1
35	47	7	1
40	52	7	1
45	57	7	1
50	62	7	1
50.8	63.5	7	1.5
55	69	8	1.5
60	74	8	1.5
63	77	8	1.5
63.5	77	8	1.5
65	79	8	1.5
70	84	8	1.5
75	89	8	1.5
76.2	88.9	8	1.5
80	94	8	1.5
85	99	8	1.5
90	104	8	1.5
95	109	8	1.5
100	114	8	1.5
105	121	9	2
110	126	9	2
115	131	9	2
120	136	9	2
140	160	10	2

The above sizes are commonly used specifications, and other specifications are available for order.

Dust Seal



FOLON-A



d	D	H	h	S	L	d	D	H	h	S	L
8	13	4.1	3.1	10.5	3.5	30	38	5.8	4.5	33	5
10	16	4.8	3.6	12.5	4	30	38	6.5	5	34	6
11.2	19.2	6	4.5	15.5	5	31.5	39.5	6.5	5	35.5	6
12	18	4.8	3.6	14.5	4	32	40	5.8	4.5	35	5
14	20	4.8	3.6	16.5	4	32	40	6.5	5	36	6
14	22	6	4.5	18.5	5	32	40.5	6.5	5	36	6
16	22	4.8	3.6	18.5	4	35	43	6.5	5	39	6
16	24	6	4.5	20.5	5	35.5	43.5	6.5	5	39.5	6
18	24	4.8	3.6	20.5	4	36	44	5.8	4.5	39	5
18	26	6	4.5	22.5	5	37	45	5.8	4.5	40	5
20	26	4.8	3.6	22.5	4	38	46	6.5	5	42	6
20	28	6	4.5	24.5	5	40	48	5.8	4.5	43	5
22	28	4.8	3.6	24.5	4	40	48	6.5	5	44	6
22	31	7	3.7	26.5	4.2	45	53	5.8	4.5	48	5
22.4	30.4	6	4.5	26.7	5	45	53	6.5	5	49	6
23.5	31.5	6	4.5	28	5	46	54	5.8	4.5	49	5
25	31	4.8	4.5	27.5	4	50	58	5.8	4.5	53	5
25	33	6	4.5	29.5	5	50	58	6.5	5	54	6
26	32	4.2	2.5	30.3	5.3	53	61	6.5	5	57	6
28	36	5.8	4.5	31	5	55	63	6.5	5	59	6
28	36	6.5	4.5	32.5	5	55	65	6.8	5.3	58	6



Dust Seal

FOLON A

d	D	H	h	S	L
56	68	6.8	5.3	59	6
56	64	6.5	5	60	6
60	68	6.5	5	64	6
60	70	6.8	5.3	63	6
63	71	6.5	5	67	6
63	73	6.8	5.3	66	6
65	73	6.5	5	69	6
65	75	6.8	5.3	68	6
67	75	6.5	5	71	6
70	80	6.8	5.3	73	6
70	80	8	6	75	7
71	81	8	6	76	7
75	85	6.8	5.3	78	6
75	85	8	6	80	7
80	90	6.8	5.3	83	6
80	90	8	6	85	7
85	95	6.8	5.3	88	6
85	95	8	6	90	7
90	100	6.8	5.3	93	6
90	100	8	6	95	7
95	105	8	6	100	7
98	108	8	6	103	7
100	110	8	6	105	7
104.5	117	8.5	5	108.5	6
107	117	8.5	5	111	6
110	120	8	6	115	7
110	125	9.5	7.5	114	8.5
112	122	8	6	117	7
125	138	9.5	7	132	8
125	140	9.5	7.5	129	8.5
130	143	9.5	7	137	8
136	149	9.5	7	143	8
140	153	9.5	7	147	8

d	D	H	h	S	L
140	155	9.5	7.5	144	8.5
140	157	8	6	145	7
145	158	9.5	7	152	8
160	173	9.5	7	167	8
160	174	9.5	7	167	8
165	178	9.5	7	172	8
165	179	9.5	7	172	8
180	193	9.5	7	187	8
180	194	9.5	7	187	8
200	213	9.5	7	207	8
200	214	9.5	7	207	8
204	218	9.5	7	211	8
220	233	9.5	7	227	8
230	244	9.5	7	237	8
250	263	9.5	7	257	8

The above sizes are commonly used specifications, and other specifications are available for order.

Dust Seal



NBR, FKM

(LBH series)

d	D	h	H	S	L	B	d	D	h	H	S	L	B
12.5	20.5	4.5	6	16.8	5	2	100	110	6	8	105	7	3
14	22	4.5	6	18.3	5	2	105	115	6	8	110	7	3
16	24	4.5	6	20.3	5	2	106	116	6	8	111	7	3
18	26	4.5	6	22.3	5	2	110	120	6	8	115	7	3
20	28	4.5	6	24.3	5	2	112	122	6	8	117	7	3
22	30	4.5	6	26.3	55	2	115	125	6	8	120	7	3
22.4	30.4	4.5	6	26.7	5	2	118	128	6	8	123	7	3
25	33	4.5	6	29.3	5	2	125	138	7	9.5	132	8	3
28	36	4.5	6	32.3	5	2	132	145	7	9.5	139	8	3
30	38	5	6.5	34	6	2	140	153	7	9.5	147	8	3
31.5	39.5	5	6.5	35.5	6	2	145	158	7	9.5	152	8	3
32	40	5	6.5	36	6	2	150	163	7	9.5	157	8	3
35	43	5	6.5	39	6	2	160	173	7	9.5	167	8	3
35.5	43.5	5	6.5	39.5	6	2	160	174	7	9.5	167	8	3
36	44	5	6.5	40	6	2	165	178	7	9.5	172	8	3
40	48	5	6.5	44	6	2	170	185	11	14	178	12	5
45	53	5	6.5	49	6	2	175	188	7	9.5	182	8	3
50	58	5	6.5	54	6	2	180	193	7	9.5	187	8	3
53	61	5	6.5	57	6	2	180	194	7	9.5	187	8	3
55	63	5	6.5	59	6	2	200	213	7	9.5	207	8	3
56	64	5	6.5	60	6	2	205	218	7	9.5	212	8	3
60	68	5	6.5	64	6	2	210	223	7	9.5	217	8	3
63	71	5	6.5	67	6	2	224	237	7	9.5	231	8	3
65	73	5	6.5	69	6	2	240	256	10	13	248	11	4
67	75	5	6.5	71	7	3	250	266	9	12	258	10	4
70	80	6	8	75	7	3	250	266	10	13	258	11	4
71	81	6	8	76	7	3	280	296	9	12	288	10	4
75	85	6	8	80	7	3	355	375	10	14	365	11	4
80	90	6	8	85	7	3	500	520	11.5	15.5	510	12.5	5
85	95	6	8	90	7	3							
90	100	6	8	95	7	3							
95	105	6	8	100	7	3							

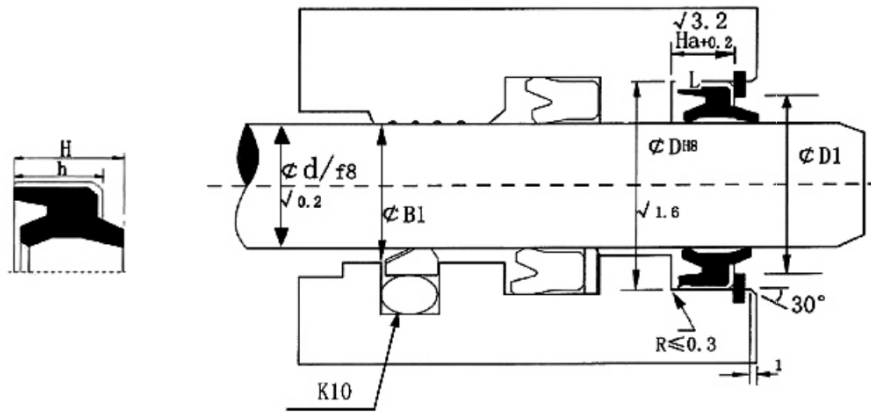
The above sizes are commonly used specifications, and other specifications are available for order.

FOLON-A



Dust Seal

FOLON A



NBR

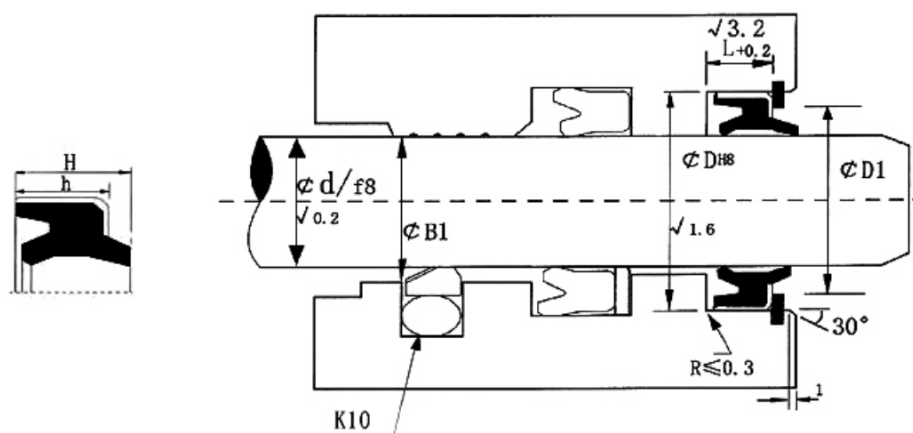
d	D	h	H	d	D	h	H
12.50	20.50	5.00	7.00	90.00	104.00	8.00	11.00
14.00	24.00	5.00	7.00	95.00	109.00	8.00	11.00
16.00	26.00	5.00	7.00	100.00	114.00	8.00	11.00
18.00	30.00	6.00	9.00	105.00	121.00	9.00	12.00
20.00	32.00	6.00	9.00	106.00	122.00	9.00	12.00
22.00	34.00	6.00	9.00	110.00	126.00	9.00	12.00
22.40	34.40	6.00	9.00	112.00	128.00	9.00	12.00
25.00	37.00	6.00	9.00	115.00	131.00	8.00	12.00
28.00	40.00	6.00	9.00	120.00	136.00	8.00	12.00
30.00	42.00	6.00	9.00	125.00	141.00	9.00	12.00
31.50	44.50	7.00	10.00	130.00	146.00	10.00	14.00
32.00	44.00	7.00	10.00	140.00	160.00	10.00	14.00
35.00	47.00	7.00	10.00	145.00	165.00	10.00	14.00
35.50	47.50	7.00	10.00	150.00	170.00	10.00	14.00
36.00	48.00	7.00	10.00	160.00	180.00	10.00	14.00
40.00	52.00	7.00	10.00	165.00	174.00	10.00	14.00
45.00	57.00	7.00	10.00	170.00	178.00	10.00	14.00
50.00	62.00	7.00	10.00	175.00	185.00	10.00	14.00
53.00	67.00	8.00	11.00	180.00	188.00	12.00	17.00
55.00	69.00	8.00	11.00	185.00	193.00	12.00	17.00
56.00	70.00	8.00	11.00	190.00	194.00	12.00	17.00
60.00	74.00	8.00	11.00	200.00	225.00	12.00	17.00
63.00	77.00	8.00	11.00	225.00	250.00	12.00	17.00
65.00	79.00	8.00	11.00	250.00	275.00	12.00	17.00
70.00	84.00	8.00	11.00	240.00	256.00	12.00	17.00
75.00	89.00	8.00	11.00	250.00	266.00	12.00	17.00
80.00	94.00	8.00	11.00	280.00	296.00	12.00	17.00
85.00	99.00	8.00	11.00	355.00	375.00	10.00	17.00

The above sizes are commonly used specifications, and other specifications are available for order.

Dust Seal



FOLON-A



PU

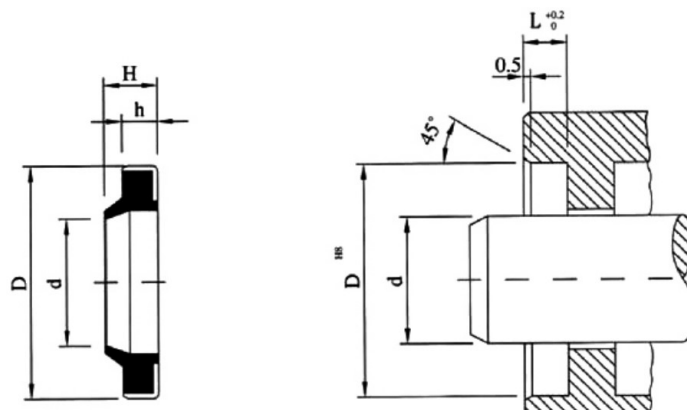
d	D	h	H	d	D	h	H
19	27	4	6	70	84	8	11
20	32	6	9	75	89	8	11
25	37	6	9	80	94	8	11
30	42	6	9	85	99	8	11
32	44	7	10	90	104	8	11
35	47	7	10	95	109	8	11
38	50	7	10	100	114	8	11
40	52	7	10	105	121	9	12
45	57	7	10	110	126	9	12
50	62	7	10	115	131	9	12
55	69	8	11	120	136	9	12
60	74	8	11	130	146	9	12
65	79	8	11	140	160	10	14
70	83	8	11				

The above sizes are commonly used specifications, and other specifications are available for order.



Dust Seal

FOLON A



NBR

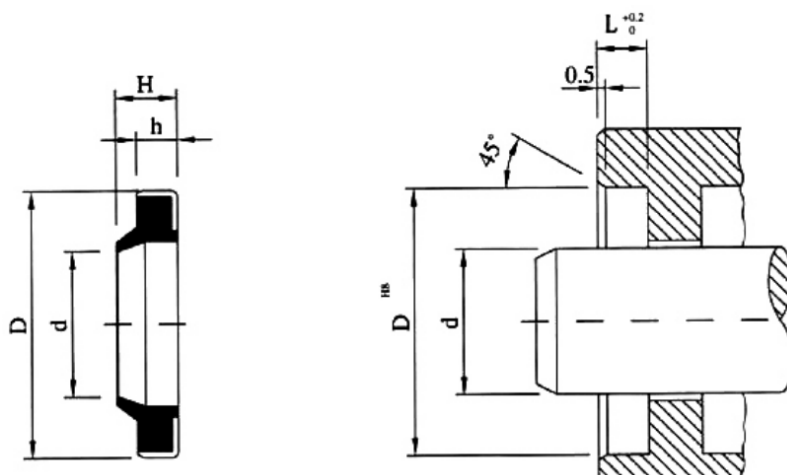
d	D	h/L	H
10	16	3	4.5
10	20	5	8
11.1	16.66	6.1	8.5
12	20	4	6
12	22	5	8
14	20	3.5	5
14	22	3	4
15	25	5	8
15.88	22.23	3.2	4.7
16	22	3	4
16	26	5	8
18	28	7	10
18	35	5	8
19	31.75	3.2	4
19.05	26.99	6.4	9.5
19.05	28.58	4.8	7.6
20	28	3	5
20	28	3.5	5
20	28	5	8
20	30	4	6
20	30	7	10
20	35	7	10
22	28	5	9
22	32	5	8
22	32	7	10
22	35	5	8
24	32	5	7
25	31	5	7
25	35	5	8
25	35	7	10
25.4	34.93	6.4	9.5
28	38	5	8
28	38	7	10
28	40	7	10
30	40	5	8
30	40	7	10
32	42	7	10
32	45	5	8
32	45	7	10
35	41	5	7

d	D	h/L	H
35	45	7	10
36	45	5	7
36	45	7	10
36	46	7	10
40	50	5	8
40	50	7	10
42	52	7	10
45	55	7	10
45	60	7	10
48	60	7	10
50	56	5	8
50	60	7	10
50	65	5	8
52	62	7	10
55	63	7	10
55	65	7	10
56	65	7	10
56	66	7	10
60	70	7	10
63	73	7	10
63	75	7	10
65	75	7	10
70	80	7	10
75	85	7	10
80	88	7	10
80	90	7	10
85	95	7	10
90	100	7	10
95	105	7	10
100	110	7	10
105	115	7	10
110	120	7	10
115	125	7	10
120	130	7	10
125	140	9	12
130	145	9	12
140	155	9	12
170	185	10	14
180	195	10	14
200	220	12	16

Dust Seal



FOLON-A



PU

d	D	h/L	H	d	D	h/L	H
8	14	3.5	5	25	32	5	8
8	18	5	7	25	35	5	8
10	20	5	8	25	35	7	10
12	20	4	6	25	37	6	9
12	22	5	8	28	38	5	8
14	20	3.5	5	28	38	7	10
14	24	5	7	30	40	5	8
15	21	3.5	5	30	40	7	10
16	22	3.5	5	30	42	6	9
16	22	3	4	32	42	5	8
16	26	5	8	32	42	7	10
17	24	3.5	5	32	44	7	10
18	28	5	7	32	45	4	6
18	28	5	8	35	45	7	10
18	28	7	10	35	47	7	10
18	30	6	9	36	45	7	10
19	26	5	8	36	46	7	10
19	27	6.4	9.5	36	50	7	10
20	28	3.5	5	38	48	7	10
20	30	4	6	40	50	5	8
20	30	5	8	40	50	7	10
20	30	7	10	40	52	7	10
20	32	6	9	45	55	7	10
20	32	7	10	45	57	7	10
22	32	7	10	45	60	7	10

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Dust Seal

PU

FOLON-A

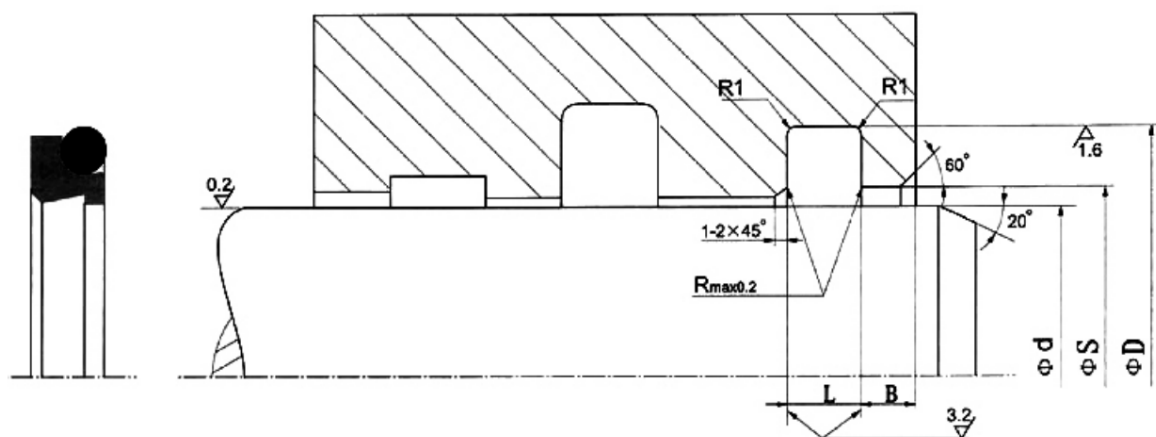
d	D	h	H	d	D	h	H
47	59	7	10	90	110	10	14
48	60	7	10	95	105	7	10
50	56	5	8	100	110	7	10
50	60	7	10	100	114	8	11
50	62	7	10	100	115	8	11
55	63	7	10	105	115	7	10
55	65	5	8	110	120	7	10
55	65	7	10	110	126	9	12
55	69	8	11	115	125	7	10
56	66	7	10	120	130	7	10
60	70	7	10	120	136	9	12
60	74	5	8	125	140	9	12
60	74	8	11	125	141	9	12
63	73	5	8	130	145	9	12
63	70	7	10	135	150	9	12
63	77	8	11	140	155	9	12
65	70	7	10	140	160	10	16
65	79	8	11	150	165	9	12
70	80	7	10	150	170	10	14
70	84	8	11	160	175	9	12
71	85	8	11	160	180	10	14
75	85	7	10	170	190	10	14
80	90	7	10	180	195	10	14
80	94	8	11	180	205	12	17
82	92	7	10	190	215	12	17
85	95	7	10	200	220	12	16
85	99	8	11	200	225	12	17
90	100	7	10	224	249	12	17
90	104	8	11				

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Dust Seal



FOLON-A



Rod diameter d f8	Groove outside diameter DH9	Width L+0.2	Radius R1	Shoulder diameter S+0.2	Shoulder width B min	O-ring SN	O-ring inside diameter
19-39.9	d+7.6	4.2	0.8	d+1.0+0.2	3	100	(d+2.5)×2.62
40-69.9	d+8.8	6.3	0.8	d+1.5+0.2	3	100	(d+3.5)×2.62
70-139.9	d+12.2	8.1	1.5	d+2.0+0.3	4	200	(d+4)×3.53
140-399.9	d+16.0	9.5	1.5	d+2.5+0.3	5	300	(d+5)×5.33
400-649.9	d+24.0	14.0	1.5	d+2.5+0.3	8	400	(d+6)×7.00
650-999.9	d+27.3	16.0	2.0	d+2.5+0.3	10	500	(d+7)×8.40



Dust Seal

FOLON-A

Piston rod diameter d f8	Groove outside diameter D H9	Width L+0.2	Radius R	Shoulder diameter S	Shoulder width B≥	O-ring SN
20	27.6	4.2	0.8	21.0	3	118
22	29.6	4.2	0.8	23.0	3	120
24	31.6	4.2	0.8	25.0	3	121
25	32.6	4.2	0.8	26.0	3	122
28	35.6	4.2	0.8	29.0	3	123
30	37.6	4.2	0.8	31.0	3	125
32	39.6	4.2	0.8	33.0	3	126
33	40.6	4.2	0.8	34.0	3	127
34	41.6	4.2	0.8	35.0	3	127
35	42.6	4.2	0.8	36.0	3	128
36	43.6	4.2	0.8	37.0	3	129
38	45.6	4.2	0.8	39.0	3	130
40	48.8	6.3	0.8	41.5	3	132
41	49.8	6.3	0.8	42.5	3	132
42	50.8	6.3	0.8	43.5	3	133
43	51.8	6.3	0.8	44.5	3	134
45	53.8	6.3	0.8	46.5	3	135
48	56.8	6.3	0.8	49.5	3	137
50	58.8	6.3	0.8	51.5	3	138
52	60.8	6.3	0.8	53.5	3	139
54	62.8	6.3	0.8	55.5	3	141
55	63.8	6.3	0.8	56.5	3	141
56	64.8	6.3	0.8	57.5	3	142
57	65.8	6.3	0.8	58.5	3	142
60	68.8	6.3	0.8	61.5	3	144
63	71.8	6.3	0.8	64.5	3	146
64	72.8	6.3	0.8	65.5	3	147
65	73.8	6.3	0.8	66.5	3	147
70	82.2	8.1	1.5	72.0	4	234
72	84.2	8.1	1.5	74.0	4	234
75	87.2	8.1	1.5	77.0	4	235
80	92.2	8.1	1.5	82.0	4	237
85	97.2	8.1	1.5	87.0	4	239
90	102.2	8.1	1.5	92.0	4	240
92	104.2	8.1	1.5	94.0	4	241
95	107.2	8.1	1.5	97.0	4	242
100	112.2	8.1	1.5	102.0	4	243
104	116.2	8.1	1.5	106.0	4	245
105	117.2	8.1	1.5	107.0	4	245
106	118.2	8.1	1.5	108.0	4	245

Dust Seal



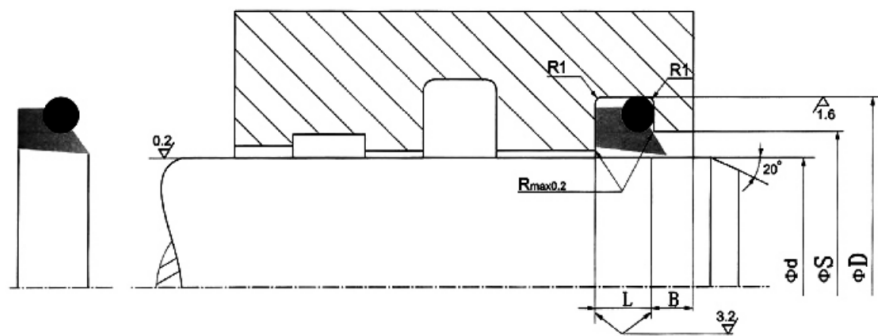
Piston rod diameter d f8	Groove outside diameter D H9	Width L+0.2	Radius R	Shoulder diameter S	Shoulder width B≥	O-ring SN
110	122.2	8.1	1.5	112.0	4	246
115	127.2	8.1	1.5	117.0	4	248
120	132.2	8.1	1.5	122.0	4	249
125	137.2	8.1	1.5	127.0	4	251
127	139.2	8.1	1.5	129.0	4	252
130	142.2	8.1	1.5	132.0	4	253
135	147.2	8.1	1.5	137.0	4	254
140	156.0	9.5	1.5	142.5	5	359
150	166.0	9.5	1.5	152.5	5	361
160	176.0	9.5	1.5	162.5	5	363
170	186.0	9.5	1.5	172.5	5	365
180	196.0	9.5	1.5	182.5	5	366
190	206.0	9.5	1.5	192.5	5	368
200	216.0	9.5	1.5	202.5	5	369
205	221.0	9.5	1.5	207.5	5	370
210	226.0	9.5	1.5	212.5	5	371
220	236.0	9.5	1.5	222.5	5	373
230	246.0	9.5	1.5	232.2	5	374
235	251.0	9.5	1.5	237.5	5	375
240	256.0	9.5	1.5	242.5	5	376
250	266.0	9.5	1.5	252.5	5	377
254	270.0	9.5	1.5	256.5	5	377
260	276.0	9.5	1.5	262.5	5	378
270	286.0	9.5	1.5	272.5	5	379
280	296.0	9.5	1.5	282.5	5	379
290	306.0	9.5	1.5	292.5	5	380
300	316.0	9.5	1.5	302.5	5	381
310	326.0	9.5	1.5	312.5	5	381
320	336.0	9.5	1.5	322.5	5	382
350	366.0	9.5	1.5	352.5	5	383
360	376.0	9.5	1.5	362.5	5	383
370	386.0	9.5	1.5	372.5	5	384
400	424.0	14.0	1.5	402.5	8	461
440	464.0	14.0	1.5	442.5	8	464
465	489.0	14.0	1.5	467.5	8	466
472	496.0	14.0	1.5	474.5	8	467
480	504.0	14.0	1.5	482.5	8	468
550	574.0	14.0	1.5	552.5	8	471
560	584.0	14.0	1.5	562.5	8	471
630	654.0	14.0	1.5	632.5	8	474
710	737.3	16.0	2.0	712.5	10	715×8.4
800	827.3	16.0	2.0	802.5	10	810×8.4
900	927.3	16.0	2.0	902.5	10	910×8.4

FOLON-A



Dust Seal

FOLON.A



Rod diameter d f8	Groove outside diameter DH9	Groove width L+0.2	Radius R1	Shoulder diameter S +0.2	Shoulder width B min	O-ring SN	O-ring inside diameter
6-11.9	d+4.8	3.7	0.4	d+2.7	2	000	$(d+2) \times 1.78$
12-64.9	D+6.8	5.0	0.7	d+3.5	2	100	$(d+3) \times 2.62$
65-250.9	d+8.8	6.0	1.0	d+4.0	3	200	$(d+4) \times 3.53$
251-420.9	D+12.2	8.4	1.2	d+4.5	3	300	$(d+4) \times 5.33$
421-650.9	D+16.0	11.0	1.5	d+5.2	4	400	$(d+5) \times 7.00$
651-999.9	D+20.0	14.0	2.0	d+6.6	5	500	$(d+6) \times 8.40$

Dust Seal

Rod diameter df8	Groove outside diameter DH9	Width L+0.2	Shoulder diameter S +0.2	O-ring SN	Rod diameter df8	Groove outside diameter DH9	Width L+0.2	Shoulder diameter S +0.2	O-ring SN
6	10.8	3.7	8.7	011	160	168.8	6.0	164.0	259
8	12.8	3.7	10.7	012	170	178.8	6.0	174.0	261
10	14.8	3.7	12.7	013	180	188.8	6.0	184.0	263
12	18.8	5.0	15.5	113	190	198.8	6.0	194.0	264
14	20.8	5.0	17.5	114	200	208.8	6.0	204.0	266
16	22.8	5.0	19.5	115	210	218.8	6.0	214.0	267
18	24.8	5.0	21.5	117	220	228.8	6.0	224.0	269
20	26.8	5.0	23.5	118	230	238.8	6.0	234.0	270
22	28.8	5.0	25.5	119	240	248.8	6.0	244.0	272
25	31.8	5.0	28.5	121	250	258.8	6.0	254.0	274
28	34.8	5.0	31.5	123	260	272.2	8.4	264.5	377
30	36.8	5.0	33.5	124	270	282.2	8.4	274.5	378
32	38.8	5.0	35.5	126	280	292.2	8.4	284.5	379
36	42.8	5.0	39.5	129	290	302.2	8.4	294.5	380
40	46.8	5.0	43.5	131	300	312.2	8.4	304.5	381
42	48.8	5.0	45.5	132	310	322.2	8.4	314.5	381
45	51.8	5.0	48.5	134	320	332.2	8.4	324.5	382
48	54.8	5.0	51.5	136	330	342.2	8.4	334.5	382
50	56.8	5.0	53.5	137	340	352.2	8.4	344.5	382
56	62.8	5.0	59.5	141	350	362.2	8.4	354.5	383
63	69.8	5.0	66.5	145	360	372.2	8.4	364.5	383
65	73.8	6.0	69.0	231	380	392.2	8.4	384.5	384
70	78.8	6.0	74.0	233	400	412.2	8.4	404.5	385
75	83.8	6.0	79.0	234	420	432.2	8.4	424.5	386
80	88.8	6.0	84.0	236	430	446.0	11.0	435.2	463
85	93.8	6.0	89.0	238	440	456.0	11.0	445.2	464
90	98.8	6.0	94.0	239	450	466.0	11.0	455.2	465
95	103.8	6.0	99.0	241	480	496.0	11.0	485.2	467
100	108.8	6.0	104.0	242	500	516.0	11.0	505.2	469
105	113.8	6.0	109.0	244	520	536.0	11.0	525.2	469
110	118.8	6.0	114.0	245	550	566.0	11.0	555.2	471
115	123.8	6.0	119.0	247	600	616.0	11.0	605.2	473
120	128.8	6.0	124.0	248	620	636.0	11.0	625.2	473
125	133.8	6.0	129.0	250	650	666.0	11.0	655.2	475
130	138.8	6.0	134.0	252	700	720.0	14.0	706.6	710×8.4
140	148.8	6.0	144.0	255	800	820.0	14.0	806.6	810×8.4
150	158.8	6.0	154.0	258	900	920.0	14.0	906.6	910×8.4

FOLON-A

Rod Seal

Rod seals are the most demanding seals in hydraulic cylinders. Leaks caused by rod seals usually lead to accidents and environmental pollution, so it is especially important to choose the right rod seals.

The performance of a dynamic seal depends on many factors such as the material, the structure and surface characteristics of the seal and piston rod. Other factors such as speed, frequency, pressure and temperature, the groove dimensions and the guide ring design are also important.

Poor static seal function can also lead to leakage of hydraulic media through the seal grooves. Factors that determine the performance of a static seal include the surface finish of the seal groove, the hardness of the seal material, the structure of the seal lip and the axial movement of the seal in the groove.

The rod seals are divided into the following types according to the requirements of use:

Single-acting: such as UN, H ring, single-acting step seal, and V-ring.

Double-acting: double-acting Glyd ring, T7, S7, S8, and S9.

By material: Rubber seal, PU seal, and PTFE seal.

The PU U-seal has good wear resistance, with hardness of M-90, M-95, etc.

Since the preload of the seal is concentrated on the seal lip, the lip is usually sharpened so that a high surface pressure is generated in a small contact area. As a result, the sealing effect is relatively good even at low pressure.

NBR seal:

The advantages are very low permanent compression deformation and very good elasticity within the permitted temperature, and good sealing effect even at low pressure. In general, NBR seals are used in cylinders and low-pressure cylinders.

In order to increase the working pressure, the main seal of the single-acting seal is made of high-temperature vulcanized NBR, the back-up ring is made of fabric reinforced phenolic resin and the anti-extrusion back-up ring is made of POM, which is used to reduce frictional loss, reduce heat generation and prolong the seal life.

Because of its material characteristics, it is especially suitable for those applications where PU material seals are not suitable, such as water-in-oil or emulsion media. S10, S13 and other single-acting anti-extrusion seals are NBR seals.

Rod Seal

PTFE slip-ring seal:

PTFE material has very low friction and corrosion resistance, and excellent heat resistance, but has poor elasticity. Therefore, it is generally mated with an expansion ring to compensate the elasticity, and the expansion ring must provide sufficient initial sealing force and ensure its static sealing function in the groove. In practice, PTFE is filled with different auxiliary materials, from copper powder and molybdenum disulfide to graphite and glass fiber, which improve the frictional properties of PTFE.

In conventional and standard cylinders, standard seals are used, which can facilitate the repair of the cylinder and the supply of spare parts.

In multi-stage telescopic cylinder, due to its large extension area, it will inevitably lead to an increase in leakage. When the multi-stage telescopic cylinder is fully extended, there will be a large tilt due to the accumulated error in the fit tolerance of each section, and it is very easy to lead to vacuum in the housing. As most of the PTFE seals are used in various vehicles, the phenomenon of environmental pollution is more serious. Therefore, it is very important to choose the right seal.

For cylinders under vibration conditions, S13 single-acting seals can be used, and fabric-reinforced V-seals can also be used in heavy-load vibration conditions.

Anti-rust and anti-wear coating of the piston rod surface is critical to the function and life of the seal, and the rod should be carefully cleaned prior to mounting.

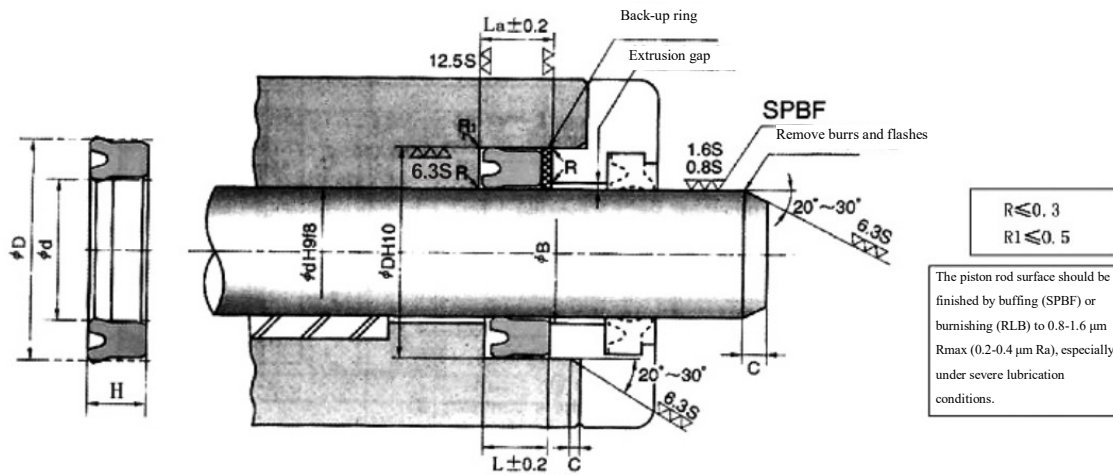
Piston rods with good surface roughness, flatness and coating will reduce the wear of the seals and reduce the risk of piston rod scratching.

Choosing the correct groove dimensions, reasonable mounting form, and fillet radius of sealing groove, removal of all sharp angles of the groove, and correct chamfering of the bore are necessary for the proper functioning of the seal.



Rod Seal

FOLON A



Groove width L, La

3-5.9	$L=H+0.7$	$La=L+ \text{grade}$
6-18	$L=H+1$	$La=L+ \text{grade}$
18<	$L=H+2$	$La=L+ \text{grade}$

Relationship between D and D1 for piston seal

D	D1
$D < 120$	$D1=D-1$
$D \geq 120$	$D1=D-2$

Chamfer width C

5<	2-2.5
5.1-7.5	3.5-4
7.6-10	5
10.1-12.5	6.5
12.6-15	7.5
15.1<	10

Pressure and gap

d	10Mpa	25Mpa	40Mpa
5-24.9	0.4	0.3	0.2
25-49.9	0.4	0.3	0.2
50-74.9	0.4	0.3	0.2
75-149.9	0.4	0.3	0.2
150-299.9	0.4	0.3	0.2
300-500	0.4	0.3	0.2
500-750	0.5	0.4	0.2 5
>750	0.6	0.5	0.3

Rod Seal



NBR

d	D	H	L
3	10	6	7
4	7.5	3	4
4	10	4	5
4	10	4.5	5.5
4	10	5	6
4	11	8	9
4	12	4	5
4	12	5.5	6.5
5	11	5	6
5	11	7	8
5	12	5	6
5	12	5.5	6.5
5	12	6	7
5	13	4	5
5	13	6	7
5	14	4.5	5.5
5	14	6	7
5	15	5	6
6	10	3	4
6	12	4	5
6	12	4.5	5.5
6	12	5	6
6	12	5.5	6.5
6	12	6	7
6	12	6.5	7.5
6	12	7	8
6	14	4	5
6	15	5	6
6	15	8	9
6	15	9	10
6	16	5	6
6	16	6	7
6	17	6	7
6	18	8	9

d	D	H	L
6	20	8	9
7	15	4	5
7	15	5	6
7	15	7	8
7	15	8	9
8	12	5	6
8	14	4	5
8	14	5	6
8	14	6	7
8	14	7	8
8	15	4	5
8	15	6	7
8	15	8	9
8	15	9	10
8	16	4	5
8	16	6	7
8	16	8	9
8	18	5	6
8	18	6	7
8	18	8	9
8	18	9	10
8	18	10	11
8	20	6	7
8	22	7	8
8	22	8	9
8	22	9	10
8	25	6	7
9	15	8	9
9	17	4	5
9	18	5	6
9	19	6	7
9	19	7	8
9.5	30	10	11
10	16	4	5

d	D	H	L
10	16	5	6
10	16	6	7
10	18	4	5
10	18	5	6
10	18	6	7
10	18	7	8
10	18	8	9
10	18	9	10
10	20	5	6
10	20	6	7
10	20	7	8
10	20	8	9
10	20	9	10
10	22	6	7
10	22	7	8
10	22	8	9
10	22	9	10
10	25	7.5	8.5
10	25	10	11
10	26	8	9
10	26	9.5	10.5
10	28	10	11
10	30	10	11
32	32	10	11
11	26	8	9
11	27	8	9
11.5	21.5	7	8
12	18	4	5
12	18	5	6
12	18	6	7
12	18	7	8
12	20	4	5
12	20	5	6
12	20	8	9

FOLON-A



Rod Seal

FOLON-A

d	D	H	L
12	20	9	10
12	22	5	6
12	22	6	7
12	22	7	8
12	22	8	9
12	22	9	10
12	24	6	7
12	24	8	9
12	24	9	10
12	24	10	11
12	25	8	9
12	25	9	10
12	25	10	11
12	25	11	12
12	26	10	11
12	28	10	11
12	32	10	11
12	35	12	13
12.7	19	5	6
13	23	5	6
13	25	8	9
13	25	10	11
13	30	9	10
13	30	10	11
13	35	15	16
13	36	12	13
14	20	5	6
14	20	6	7
14	22	4	5
14	22	5	6
14	22	6	7
14	22	7	8
14	22	8	9
14	22	9	10

d	D	H	L
14	22	12	13
14	24	5	6
14	24	6	7
14	24	8	9
14	24	9	10
14	26	6	7
14	28	7	8
14	28	10	11
14	32	8	9
14	32	10	11
15	20	3	4
15	22	4	5
15	25	5	6
15	25	6	7
15	25	8	9
15	25	9	10
15	25	10	11
15	27	6	7
15	27	7	8
15	28	8	9
15	28	10	11
15	28	11	12
15	30	6	7
15	30	7.5	8.5
15	30	8	9
15	30	10	11
15	35	10	11
16	22	3	4
16	22	4	5
16	22	4.5	5.5
16	22	5	6
16	22	5.5	6.5
16	22	6	7
16	24	4	5

d	D	H	L
16	24	5	6
16	24	6	7
16	24	9	10
16	24	10	11
16	25	5	6
16	25	8	9
16	26	5	6
16	26	6	7
16	26	8	9
16	26	9	10
16	26	10	11
16	28	6	7
16	28	7	8
16	28	7.5	8.5
16	32	8	9
16	32	9	10
16	32	10	11
16	32	11	12
16	35	9	10
16	36	10	11
17	25	4	5
17	25	10	11
17	32	7	8
17	35	6	7
17	38	10	11
18	25	5	6
18	25	5.5	6.5
18	26	4	5
18	26	5	6
18	26	6.5	7.5
18	26	7.5	8.5
18	26	8	9
18	26	8.5	9.5
18	26	9.5	10.5

Rod Seal



FOLON-A

d	D	H	L
18	28	5	6
18	28	6	7
18	28	8	9
18	28	10	11
18	30	6	7
18	30	7.5	8.5
18	30	8	9
18	30	8.5	9.5
18	30	9	10
18	30	10	11
18	32	7	8
18	34	8	9
18	34	12	13
18	35	10	11
18	35	12	13
18	36	6	7
18	38	10	11
18	40	10	11
18	40	11	12
19	25	6	7
19	34	10	11
19	37	10	11
20	25	3	4
20	27	6	7
20	28	4	5
20	28	5	6
20	28	8	9
20	28	9	10
20	29	5	6
20	29	5.5	6.5
20	30	5	6
20	30	6	7
20	30	8	9
20	30	9	10

d	D	H	L
20	30	10	11
20	30	11	12
20	32	6	7
20	32	7.5	8.5
20	32	8	9
20	32	8.5	9.5
20	33	6	7
20	35	7.5	8.5
20	35	10	11
20	35	12	13
20	35	13	14
20	36	8	9
20	36	10	11
20	38	9	10
20	39	10	11
20	40	5	6
20	40	10	11
20	40	11	12
20	40	12	13
20	43	12	13
20	45	12	13
21	33	6	7
21	37	12	13
22	28	5	6
22	28	8	9
22	28	9	10
22	30	4	5
22	30	5	6
22	30	6	7
22	30	7	8
22	30	10	11
22	32	5	6
22	32	6	7
22	32	7	8

d	D	H	L
22	32	8	9
22	32	9	10
22	32	10	11
22	32	11	12
22	34	6	7
22	34	10	11
22	35	10	11
22	35	11	12
22	37	10	11
22	38	10	11
22	42	10	11
22	46	12	13
22.4	30	5	6
23	33	5	6
23	35	6	7
23	35	10	11
23	38	10	11
23.5	31.5	5	6
24	32	4	5
24	32	5	6
24	32	7	8
24	32	8	9
24	34	5	6
24	34	10	11
24	36	6	7
24	36	7.5	8.5
24	40	8	9
24	40	9	10
24	40	10	11
24	40	12	13
25	32	7	8
25	33	4	5
25	33	5	6
25	33	7	8



Rod Seal

FOLON-A

d	D	H	L
25	35	5	6
25	35	5.5	6.5
25	35	6	7
25	35	7	8
25	35	8	9
25	35	9	10
25	35	10	11
25	35	11	12
25	37	6	7
25	37	7	8
25	38	7	8
25	38	9	10
25	38	10	11
25	38	11	12
25	39	7	8
25	40	7.5	8.5
25	40	8	9
25	40	10	11
25	40	11	12
25	42	8	9
25	45	10	11
25	45	12	13
25	47	12	13
25	50	10	11
25	50	12	13
26	34	4	5
26	35	5	6
26	36	5	6
26	36	6	7
26	36	7	8
26	38	6	7
26	42	8	9
26	46	10	11
26	47	12	13

d	D	H	L
26	56	14	15
27	35	4	5
27	35	5	6
27	36	6	7
27	38	6	7
27	42	10	11
28	35	5	6
28	35	5.5	6.5
28	35	6	7
28	35.5	5	6
28	36	4	5
28	36	5	6
28	36	6	7
28	36	6.5	7.5
28	36	7.5	8.5
28	38	5	6
28	38	6	7
28	38	7	8
28	38	8	9
28	38	9	10
28	38	10	11
28	40	6	7
28	40	7.5	8.5
28	40	10	11
28	41	6	7
28	43	10	11
28	44	8	9
28	47	10	11
28	48	10	11
28	48	12	13
29	37	4	5
30	37	6	7
30	37	8	9
30	38	4	5

d	D	H	L
30	38	5	6
30	38	6	7
30	38	6.5	7.5
30	38	7	8
30	38	12	13
30	40	5	6
30	40	5.5	6.5
30	40	6	7
30	40	6.5	7.5
30	40	7	8
30	40	9	10
30	40	10	11
30	40	11	12
30	40	11.5	12.5
30	42	6	7
30	42	9	10
30	42	10	11
30	42	11	12
30	43	6.5	7.5
30	45	7.5	8.5
30	45	9	10
30	45	10	11
30	45	11	12
30	47	10	11
30	50	10	11
30	50	11	12
30	50	12	13
30	50	13	14
30	52	11	12
30	55	12	13
30	60	15	16
31	38	7	8
31.5	41.5	6	7
31.5	44.5	6	7

Rod Seal



FOLON-A

d	D	H	L
32	40	4	5
32	40	5	6
32	40	5.5	6.5
32	40	6	7
32	40	7	8
32	40	8	9
32	40	10	11
32	42	5	6
32	42	6	7
32	42	10	11
32	42	11	12
32	44	6	7
32	44	7.5	8.5
32	45	10	11
32	45	11	12
32	47	10	11
32	50	10	11
32	50	12	13
32	50	13.5	14.5
32	52	10	11
32	58	13	14
33	43	5	6
33	43	6	7
33	45	6	7
33	55	12	13
34	44	5	6
34	45	7	8
34	45	8	9
34	45	9	10
34	46	8	9
34	50	15	16
34	74	10	11
35	42	8	9
35	43	7	8

d	D	H	L
35	45	5	6
35	45	6	7
35	45	8	9
35	45	9	10
35	45	10	11
35	45	11	12
35	47	6	7
35	48	10	11
35	48	11	12
35	50	7	8
35	50	7.5	8.5
35	50	9	10
35	50	9.5	10.5
35	50	10	11
35	50	11	12
35	52	10	11
35	52	12	13
35	55	10	11
35	55	11	12
35	55	12	13
35	55	13	14
35	60	12	13
35.5	45	6	7
35.5	45.5	6	7
36	45	10	11
36	46	5	6
36	46	6	7
36	46	7	8
36	46	8	9
36	46	10	11
36	48	6	7
36	48	7.5	8.5
36	50	8	9
36	51	7.1	8.1

d	D	H	L
36	51	7.5	8.5
36	51	10	11
36	52	10	11
36	55	10	11
36	70	10	11
38	45	5	6
38	45	5.5	6.5
38	45	6	7
38	46	6.5	7.5
38	46	7.5	8.5
38	46	12	13
38	48	5	6
38	50	6	7
38	50	9	10
38	50	10	11
38	50	12	13
38	52.5	9	10
38	52.5	9.5	10.5
38	53	10	11
38	55	10	11
38	55	11	12
38	58	10	11
38	58	11	12
38	58	12	13
38	60	12	13
38	74	6	7
39.7	51	8	9
40	48	5	6
40	48	8	9
40	48	12	13
40	50	5	6
40	50	6	7
40	50	6.5	7.5
40	50	7	8



Rod Seal

FOLON-A

d	D	H	L
40	50	7.5	8.5
40	50	9	10
40	50	10	11
40	50	11	12
40	52	6	7
40	52	7	8
40	52	7.5	8.5
40	52	10	11
40	52	12	13
40	55	7.5	8.5
40	55	9.5	10.5
40	55	10	11
40	55	11	12
40	56	8	9
40	56	10	11
40	56	11	12
40	58	10	11
40	60	10	11
40	60	11	12
40	60	12	13
40	60	13	14
40	60	14	15
40	60	18	19
40	64	12	13
40	65	12	13
40	65	13	14
40	65	15	16
40	70	16	17
40	76	12	13
41	56	8.5	9.5
41	56	10	11
42	50	5	6
42	50	6	7
42	50	8	9

d	D	H	L
42	50	9	10
42	50	10	11
42	52	5	6
42	52	9	10
42	52	10	11
42	54	6	7
42	55	8	9
42	57	10	11
42	62	12	13
42	62	15	16
43	62	18	19
43	50	12	13
43	55	6	7
44	63	10	11
44	54	4	5
44	56	6	7
44	57	7.5	8.5
44	64	9	10
44	53	10	11
45	55	12	13
45	55	5	6
45	55	6	7
45	55	6.5	7.5
45	55	7.5	8.5
45	55	10	11
45	55	11	12
45	56	7	8
45	57	6	7
45	58	10	11
45	58	12	13
45	60	7.5	8.5
45	60	9	10
45	60	10	11
45	60	11	12

d	D	H	L
45	63	9	10
45	63	10	11
45	63	11	12
45	63	12	13
45	63	10	11
45	65	11	12
45	65	12	13
45	65	13	14
45	75	15	16
46	54	6.5	7.5
46	56	5	6
46	58	6	7
46	70	12	13
47	65	12	13
47	66.7	10	11
48	58	10	11
48	58	11	12
48	60	6	7
48	60	7.5	8.5
48	63	9	10
48	63	10	11
48	63	12	13
48	65	10	11
48	68	10	11
48	68	12	13
50	57	10	11
50	60	5	6
50	60	6	7
50	60	7	8
50	60	8	9
50	60	10	11
50	60	11	12
50	60	12	13
50	62	6	7

Rod Seal



FOLON-A

d	D	H	L
50	62	9	10
50	62	10	11
50	63	6	7
50	63	7	8
50	63	8	9
50	63	9	10
50	63	10	11
50	65	7.5	8.5
50	65	9	10
50	65	10	11
50	65	11	12
50	65	12	13
50	68	12	13
50	70	8	9
50	70	10	11
50	70	11	12
50	70	12	13
50	70	18	19
50	70	19	20
50	72	12	13
50	73	13	14
50	74	12	13
50	75	12	13
50	75	15	16
50	76	12	13
50	90	18	9
50.9	70	13	14
51	60.5	9	10
51	63	6	7
51	64	9	10
52	62	12	13
52	62	13	14
52	64	6	7
52	64	7.5	8.5

d	D	H	L
52	68	8	9
52	72	12	13
52	75	12	13
52	80	15	16
53	63	5	6
53	63	6	7
53	63	6.5	7.5
53	63	7.5	8.5
53	65	6	7
54	66	6	7
54	72	10	11
55	63	12	13
55	65	5	6
55	65	6	7
55	65	10	11
55	65	11	12
55	65	12	13
55	65	13	14
55	67	6	7
55	68	7.5	8.5
55	70	7.5	8.5
55	70	9	10
55	70	10	11
55	70	12	13
55	70	13	14
55	75	10	11
55	75	12	13
55	75	13	14
55	76	10	11
55	80	10	11
55	80	12	13
55	80	13	14
55	80	15	16
55	85	10	11

d	D	H	L
55	85	15	16
56	66	5	6
56	66	6	37
56	70	12	13
56	71	10	11
56	76	12	13
56	80	15	16
58	68	6	7
58	70	6	7
58	77	9.5	10.5
58	78	12	13
59	80	14	15
60	68	8	9
60	68	12.5	13.5
60	70	5	6
60	70	6	7
60	70	7	8
60	70	8	9
60	70	9	10
60	70	10	11
60	70	12	13
60	70	13	14
60	71	7	8
60	72	11	12
60	75	7.5	8.5
60	75	8	9
60	75	9	10
60	75	10	11
60	75	11	12
60	75	12	13
60	75	13	14
60	76	8	9
60	80	10	11
60	80	11	12



Rod Seal

FOLON-A

d	D	H	L
60	80	12	13
60	80	13	14
60	80	18	19
60	80	19	20
60	85	12	13
60	85	12.5	13.5
60	85	13.5	14.5
60	85	15	16
60	86.7	15	16
60	90	15	16
60	90	16	17
60	95	13	14
61	69	6.5	7.5
61	80	12	13
62	72	12.5	13.5
63	72	6	7
63	73	5	6
63	73	6	7
63	75	10	11
63	75	11	12
63	75	12	13
63	78	10	11
63	80	12.5	13.5
63	83	12	13
63	83	13	14
63	83	15	16
63	83	16	17
63.5	73.5	9	10
64	76	9	10
64	80	8	9
65	73	12	13
65	75	5	6
65	75	6	7
65	75	10	11

d	D	H	L
65	75	12	13
65	75	13	14
65	80	7.5	8.5
65	80	9	10
65	80	11	12
65	80	12	13
65	80	13	14
65	82	12	13
65	85	10	11
65	85	11	12
65	85	12	13
65	85	13	14
65	86	12	13
65	90	8	9
65	90	12	13
65	90	13	14
65	90	15	16
65	95	12	13
65	95	13	14
65	100	12	13
66	76	10	11
66	77	6	7
66	80	10	11
66	80	11	12
67	77	6	7
67	77	12	13
67	77	13	14
67	80	12	13
68	76	6.5	7.5
68	80	12	13
68	92	15	16
70	80	5	6
70	80	6	7
70	80	7	8

d	D	H	L
70	80	8	9
70	80	9	10
70	80	10	11
70	80	11	12
70	80	12	13
70	80	13	14
70	81	15	16
70	82	12	13
70	85	7.5	8.5
70	85	8	9
70	85	g	10
70	85	10.5	11.5
70	85	12	13
70	85	13	14
70	90	10	11
70	90	12	13
70	90	13	14
70	90	15	16
70	90	18	19
70	90	19	20
70	95	12	13
70	95	13	14
70	95	15	16
70	100	10	11
70	100	15	16
70	105	10	11
71	80	6	7
72	80	10	11
72	80	12	13
72	82	5	6
72	90	10	11
72	90	11	12
72	90	12	13
73	93	11	12

Rod Seal



FOLON-A

d	D	H	L
75	83	12	13
75	85	5	6
75	85	6	7
75	85	10	11
75	85	12	13
75	85	13	14
75	90	7.5	8.5
75	90	8.5	9.5
75	90	9	10
75	90	10	11
75	90	10.5	11.5
75	90	13	14
75	95	10	11
75	95	12	13
75	95	13	14
75	95	15	16
75	100	15	16
75	105	15	16
78	88	5	6
78	93	10.5	11.5
78	93	11.5	12.5
78	104	12.5	13.5
80	90	5	6
80	90	6	7
80	90	10	11
80	90	11	12
80	90	12	13
80	90	13	14
80	92	10	11
80	95	7.5	8.5
80	95	8	9
80	95	9	10
80	95	12	13
80	95	13	14

d	D	H	L
80	100	10	11
80	100	11	12
80	100	12	13
80	100	13	14
80	100	15	16
80	100	18	19
80	101.6	12	13
80	105	12	13
80	105	15	16
80	110	15	16
80	110	18	19
80	115	12.5	13.5
82	92	10	11
82	92	11	12
82	104	12.5	13.5
82	108	12	13
83	103	14	15
84	103	14	15
85	95	6	7
85	95	7.5	8.5
85	95	8.5	9.5
85	95	9	10
85	95	12	13
85	95	13	14
85	100	7.5	8.5
85	100	9	10
85	100	12	13
85	100	13	14
85	105	10	11
85	105	12	13
85	105	13	14
85	105	15	16
85	105	18	19
85	110	12	13

d	D	H	L
85	110	15	16
85	115	15	16
85	115	16	17
86	105	16	17
86	106	10	11
88	96	6.5	7.5
88	108	12	13
89	100	12	13
90	98	12	13
90	100	5	6
90	100	8	9
90	100	9	10
90	100	12	13
90	100	13	14
90	100	15	16
90	105	7.5	8.5
90	105	9	10
90	105	12	13
90	105	13	14
90	110	10	11
90	110	12	13
90	110	13	14
90	110	15	16
90	110	18	19
90	110	19	20
90	112	12	13
90	115	12	13
90	115	12.5	13.5
90	115	15	16
90	120	15	16
90	120	18	19
91	99	6.5	7.5
92.4	102	9.5	10.5
93	123	15	16



Rod Seal

FOLON-A

d	D	H	L
94	124	15	16
95	103	12	13
95	105	5	6
95	105	11	12
95	105	12	13
95	110	7.5	8.5
95	110	9	10
95	110	12	13
95	110	13	14
95	110	15	16
95	110	16	17
95	112	11	12
95	112	12	13
95	115	10	11
95	115	12	13
95	115	13	14
95	115	15	16
95	115	18	19
95	115	19	20
95	120	12	13
95	120	13	14
95	120	15	16
95	125	13	14
95	125	15	16
96	104	11.5	12.5
96	105	11	12
98	108	10	11
98	112	8.5	9.5
100	110	5	6
100	112	9	10
100	114	10	11
100	115	7.5	8.5
100	115	9	10
100	115	12	13

d	D	H	L
100	115	13	14
100	115	14	15
100	117.5	12	13
100	120	10	11
100	120	12	13
100	120	13	14
100	120	15	16
100	125	12	13
100	125	13	14
100	125	15	16
100	125	16	17
100	125	18	19
100	130	15	16
100	130	18	19
105	120	7.5	8.5
105	120	9	10
105	120	15	16
105	125	12	13
105	125	13	14
105	125	15	16
105	125	16	17
105	130	12	13
105	130	18	19
105	135	18	19
106	120	8.5	9.5
106	130	18	19
107	115	6.5	7.5
107	127.4	16	17
108	127	9.5	10.5
110	125	7.5	8.5
110	125	12	13
110	125	13	14
110	125	15	16
110	130	12	13

d	D	H	L
110	130	15	16
110	130	16	17
110	130	18	19
110	130	19	20
110	135	12	13
110	135	18	19
110	140	15	16
110	140	18	19
111.1	130.1	15	16
112	125	9	10
113	125	9.5	10.5
113	125	10.5	11.5
114	124	10	11
115	123	12	13
115	125	8	9
115	125	15	16
115	125	16	17
115	126	15	16
115	129	13	14
115	130	7.5	8.5
115	130	15	16
115	135	12	13
115	135	15	16
115	135	16	17
115	140	15	16
115	140	18	19
115	145	12	13
115	145	18	19
118	132	8.5	9.5
120	130	14	15
120	130	15	16
120	135	7.5	8.5
120	135	10	11
120	135	15	16

Rod Seal



FOLON-A

d	D	H	L
120	135	16	17
120	140	10	11
120	140	12	13
120	140	14	15
120	140	15	16
120	140	16	17
120	145	18	19
120	150	15	16
120	150	18	19
125	140	7.5	8.5
125	140	9	10
125	140	11	12
125	140	12	13
125	140	13	14
125	140	15	16
125	140	16	17
125	145	12	13
125	145	15	16
125	145	16	17
125	145	18	19
125	145	19	20
125	147	12	13
125	150	18	19
125	154	20	21
125	155	15	16
125	155	16	17
125	155	18	19
127	142	12	13
127	151	16	17
128	158	18	19
130	140	15	16
130	145	9	10
130	145	15	16
130	150	10	11

d	D	H	L
130	150	12	13
130	150	14	15
130	150	15	16
130	150	16	17
130	155	18	19
130	160	13	14
130	160	15	16
130	160	18	19
132	144	12	13
132	145	8.5	9.5
133	149	11	12
135	143	12	13
135	150	9	10
135	150	15	16
135	160	18	19
135	165	12	13
135	165	15	16
135	165	18	19
136	150	8.5	9.5
140	155	9	10
140	160	8	9
140	160	15	16
140	165	18	19
140	170	15	16
140	170	18	19
140	175	15	16
145	160	8	9
145	165	12	13
145	165	18	19
145	170	18	19
145	175	15	16
145	175	18	19
150	165	9	10
150	165	16	17

d	D	H	L
150	170	15	16
150	170	18	19
150	180	15	16
150	180	18	19
155	163	12	13
155	170	9	10
160	168	12	13
160	170	15	16
160	175	9	10
160	180	15	16
160	190	15	16
160	190	22	23
160	195	17	18
160	200	20	21
165	180	9	10
168	180	14	15
170	200	15	16
170	200	20	21
170	200	22	23
170	210	20	21
170	210	22	23
175	190	9	10
175	205	18	19
180	200	12	13
180	210	22	23
180	220	22	23
185	195	12	13
185	200	9	10
190	210	12	13
190	210	15	16
190	220	15	16
190	220	22	23
190	220	25	26
195	225	15	16



Rod Seal

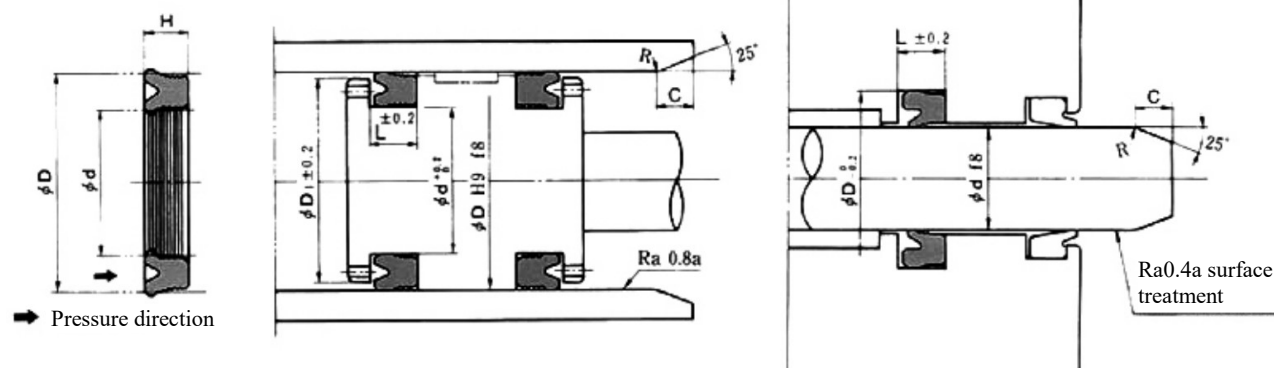
FOLON A

d	D	H	L
200	220	12	13
200	230	15	16
200	230	22	23
200	240	20	21
204	224	12	13
210	250	20	21
212	225	15	16
215	230	7.5	8.5
220	250	20	21
220	260	20	21
224	244	12	13
225	250	18	19
230	250	12	13
230	260	22	23
230	270	20	21
240	260	12	13
240	260	16	17
240	270	18	19
240	280	20	21
250	270	12	13
250	275	12	13
250	290	20	21
255	275	20	21
255	280	20	21
255	285	20	21
255	290	20	21
260	280	14	15
260	300	20	21
270	300	20	21
270	300	22	23
280	300	14	15
280	310	15	16
280	320	20	21
295	315	14	15

d	D	H	L
300	325	21	20
300	330	20	21
300	330	22	23
300	340	20	21
310	350	20	21
320	350	15	16
320	350	22	23
320	360	20	21
335	367	24	25
340	380	20	21
342	355	22	23
350	400	25	26
360	420	30	31
375	395	12	13
375	400	22	23
400	450	25	26
420	440	20	21
420	450	20	21
450	500	25	26
470	490	20	21
470	500	20	21
550	600	25	26

The above sizes are commonly used specifications, and other specifications are available for order.

Rod Seal



NBR

(GLY series)

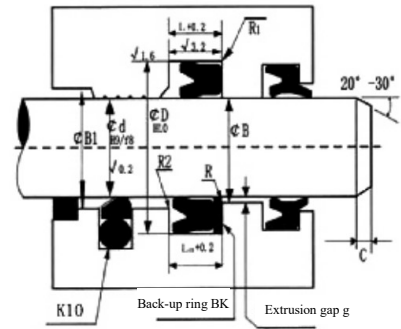
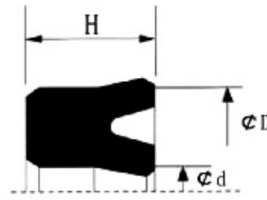
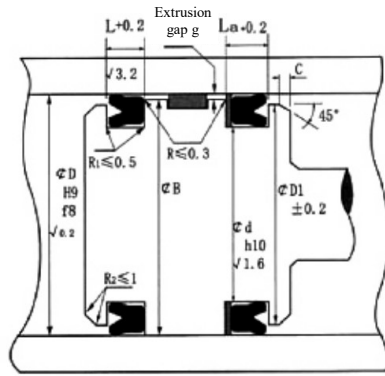
d	D	H	L	d	D	H	L
16	24	5	5.7	80	90	6	7
18	26	5	5.7	85	100	9	10
20	28	5	5.7	105	120	9	10
22.4	30	5	5.7	110	125	9	10
25	33	5	5.7	125	140	g	10
28	36	5	5.7	135	150	9	10
30	40	6	7	145	160	9	10
31.5	41.5	6	7	165	180	9	10
35	45	6	7	180	200	12	13
35.5	45.5	6	7	215	235	12	13
36	46	6	7	230	250	12	13
40	50	6	7				
45	55	6	7				
50	60	6	7				
53	63	6	7				
60	70	6	7				
65	75	6	7				
70	80	6	7				

The above sizes are commonly used specifications, and other specifications are available for order.



Rod Seal

FOLON-A



PU

d	D	H	L
6.3	16.3	7.5	8.5
6.3	16.3	8	9
7.1	17.1	7.5	8.5
7.1	17.1	8	9
8	18	7.5	8.5
8	18	8	9
9	19	7.5	8.5
9	19	8	9
10	20	7.5	8.5
10	20	8	9
11.2	21.2	7.5	8.5
11.2	21.2	8	9
12	25	8	9
12.5	22.5	7.5	8.5
12.5	22.5	8	9
14	24	7.5	8.5
14	24	8	9
15	25	8	9
15	28	10	11
16	26	7.5	8.5
16	26	8	9
16	32	10	11
18	28	8	9
18	31	10	11
18	33	10	11
18.5	31.5	10	11
20	30	8	9
20	33	10	11
20	35	10	11
21.5	31.5	8	9
22	35	10	11
22.4	32.4	8	9

d	D	H	L
22.4	35.4	10	11
25	35	8	9
25	38	10	11
25	40	10	11
25	45	12	13
25.5	35.5	10	11
27	40	10	11
28	40	10	11
28	41	10	11
28	43	10	11
30	43	10	11
30	45	10	11
31.5	44.5	10	11
31.5	46.5	10	11
32	45	10	11
32	46	10	11
32	48	10	11
34	50	12	13
35	50	10	11
35	50	12	13
35	51	12	13
35.5	50.5	10	11
35.5	51.5	12	13
38	52	10	11
40	55	10	11
40	56	10	11
40	56	12	13
40	60	12	13
41	56	10	11
45	60	10	11
45	60	12	13
45	61	12	13

d	D	H	L
47	63	12	13
48	63	10	11
50	65	10	11
50	66	12	13
50	70	12	13
51	71	12	13
53	69	12	13
53	73	12	13
55	71	12	13
55	75	12	13
55	80	15	16
56	72	12	13
56	76	12	13
60	76	12	13
60	80	12	13
63	79	12	13
63	83	12	13
64	80	12	13
65	81	12	13
65	85	12	13
67	87	12	13
67	87	15	16
70	90	12	13
70	90	15	16
71	91	12	13
71	91	15	16
75	95	12	13
75	95	15	16
80	100	12	13
80	100	15	16
85	105	12	13
85	105	15	16

Rod Seal



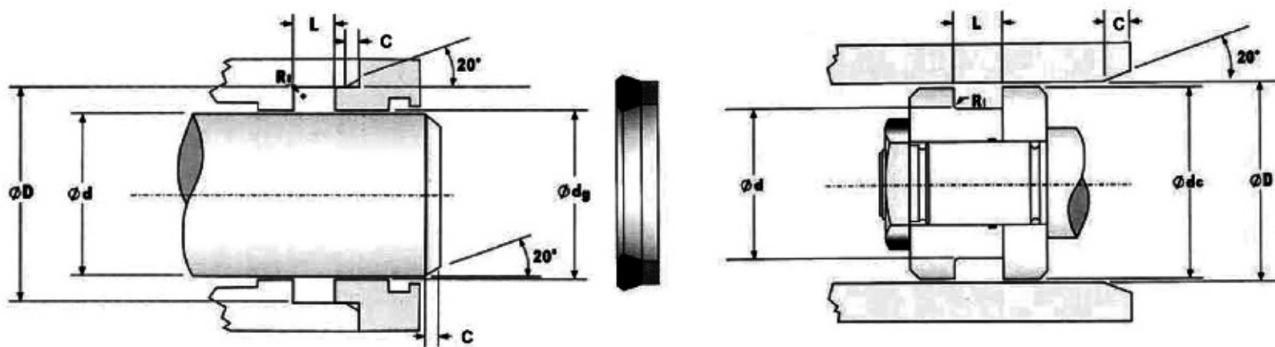
FOLON-A

d	D	H	L	d	D	H	L	d	D	H	L
90	110	12	13	175	200	15.7	17	350	370	14	15
90	110	15	16	175	200	19	20	350	380	22	24
92	112	12	13	180	205	15	16	355	385	22	24
92	112	15	16	180	205	19	20	355	387	24	26
95	115	12	13	185	210	15	16	360	390	22	24
95	115	15	16	190	215	15	16	365	395	22	24
95	120	15	16	190	215	19	20	368	400	24	26
100	120	12	13	199	224	15	16	370	400	23	25
100	120	15	16	199	224	15.7	17	370	400	25	27
100	125	15	16	199	224	19	20	371	396	16	17
105	125	15	16	200	225	15	16	375	407	24	26
106	126	15	16	200	225	19	20	380	400	15	16
110	130	15	16	210	235	18	19	380	410	15	16
112	132	15	16	212	237	19	20	380	420	30	32
115	135	15	16	224	249	19	20	390	420	22	24
118	138	15	16	225	250	18	19	395	425	22	24
120	140	15	16	225	250	19	20	400	430	22	24
125	145	15	16	236	261	19	20	400	430	25	27
125	150	19	20	250	275	19	20	400	432	24	26
130	150	15	16	255	280	19	20	420	455	25	27
130	155	19	20	265	297	24	26	425	457	24	26
132	152	15	16	270	300	18	19	430	470	20	22
132	157	19	20	270	300	24	26	435	470	25	27
135	155	15	16	280	310	22	24	440	480	35	37
135	160	15.7	17	280	312	24	26	445	470	18	19
135	160	19	20	283	315	24	26	450	480	22	24
140	160	15	16	290	320	18	19	450	482	24	26
140	165	19	20	290	320	22	24	460	500	20	22
145	165	15	16	300	332	24	26	475	507	24	26
145	170	19	20	310	340	18	19	480	505	18	19
150	170	15	16	310	340	22	24	490	530	25	27
150	175	19	20	315	347	24	26	520	550	17	18
155	180	15	16	320	340	12	13	525	555	15	16
155	180	15.7	17	320	350	22	24	530	570	20	22
155	180	19	20	323	355	24	26	540	560	14	15
160	185	15	16	330	355	16	17	570	600	17	18
160	185	19	20	330	356	20	22	600	630	20	22
165	190	15	16	330	360	22	24	600	630	28	30
165	190	19	20	335	355	14	15	600	640	30	32
170	195	15	16	335	367	24	26	640	685	25	27
170	195	19	20	340	370	22	24	700	730	15	16
175	200	15	16	345	365	14	15	760	800	34	36



Rod Seal

FOLON A



D	D>120 (5.000)	d	D>120 (5.000)	L	dc	dg
H11	H10	js11	js10	+0.4 +0.6 $\left(\begin{smallmatrix} +0.016 \\ 1 + 0.024 \end{smallmatrix} \right)$	+0 -0.1 $\left(\begin{smallmatrix} +0 \\ -0.004 \end{smallmatrix} \right)$	+0 -0.1 $\left(\begin{smallmatrix} 0.004 \\ -0 \end{smallmatrix} \right)$

Temperature °C	Pressure	Speed
-30	3000psl	1.5ft/sec
+100	200bar	0.5m/sec

Surface treatment	
Dynamic	0.4μm Ra
Static	0.8μm Ra

Bevel dimensions	
D	C
0-60	4
60-120	5
120-180	6
180-250	8
250-400	10

Rod Seal



FOLON-A

D	d	L	dc	R1	D	d	L	dc	R1
17	10	6.3	16.8	0.2	37.5	30	6	37.3	0.2
19	12	5.8	18.8	0.2	38	28	7.5	37.8	0.4
19	12	6.3	18.8	0.2	38	30	6	37.8	0.2
20	12	6.3	19.8	0.2	38	30	7	37.8	0.2
20	12	7	19.8	0.2	38	30	8.5	37.8	0.2
22	14	6	21.8	0.2	40	25	11.5	39.8	0.2
22	14	6.5	21.8	0.2	40	26	9.5	39.8	0.2
23	15	5.8	22.8	0.2	40	30	7	39.8	0.2
23	15	6.5	22.8	0.2	40	32	5.5	39.8	0.4
24	14	6.5	23.8	0.4	40	32	6	39.8	0.4
24	16	5.9	23.8	0.2	43	35	6	42.8	0.2
24	16	6.5	23.8	0.2	43	36	6	42.8	0.2
24	18	4.7	23.8	0.2	44	25	12	43.8	0.2
24	18	5	23.8	0.2	44	32	11.5	43.8	0.8
25	12	9.5	24.8	0.4	44	36	6	43.8	0.4
25	12	10	24.8	0.4	44	38	5	43.8	0.2
25	15	7.5	24.8	0.4	44.8	30.9	9	44.6	0.2
25	18	7	24.8	0.2	45	30	11	44.8	0.4
26	16	7.5	25.8	0.4	45	35	7.5	44.8	0.4
26	18	6.5	25.8	0.2	45	35	13	44.8	0.4
27	15	6.5	26.8	0.4	48	40	6	47.8	0.2
27	20	6	26.8	0.2	48	40	8	47.8	0.2
28	18	5.8	27.8	0.4	50	35	12	49.8	0.8
28	20	5.8	27.8	0.2	50	38	9	49.8	0.4
28	20	6.5	27.8	0.2	50	38	9.5	49.8	0.4
30	20	8	29.8	0.4	50	40	6	49.8	0.4
30	22	6.5	29.8	0.2	50	40	7.5	49.8	0.4
32	16	8	31.8	0.8	50	40	10.5	49.8	0.4
32	20	10	31.8	0.4	50	40	13	49.8	0.4
32	22	6	31.8	0.4	50	42	6	49.8	0.2
32	24	7	31.8	0.2	51	36	11	50.8	0.2
32	25	6	31.8	0.2	53	43	8.5	52.8	0.4
33	25	6	32.8	0.2	53	45	6	52.8	0.2
34	24	6	33.8	0.4	54	46	7.5	53.8	0.2
35	20	11	34.8	0.8	55	40	7.5	54.8	0.8
35	25	8.5	34.8	0.4	55	40	11	54.8	0.8
35	25	10	34.8	0.4	55	45	6	54.8	0.4
35	27	6	34.8	0.2	55	45	7.5	54.8	0.4
36	24	7.8	35.8	0.4	55	45	10.5	54.8	0.4
36	28	6	35.8	0.2	56	46	7.5	55.8	0.4



Rod Seal

FOLON-A

D	d	L	dc	R1
60	40	10	59.8	0.8
60	40	14	59.8	0.8
60	45	11	59.8	0.8
60	48	6.5	59.8	0.4
60	50	6	59.8	0.4
60	50	7.5	59.8	0.4
60	50	9.5	59.8	0.4
60	50	14	59.8	0.4
62	50	9	61.8	0.4
62	50	9.5	61.8	0.4
65	45	14	64.8	0.8
65	50	10.5	64.8	0.8
65	50	11	64.8	0.8
68	55	7.5	64.8	0.4
66	50	12	65.8	0.4
66	56	7.5	65.8	0.4
69.5	60	6.5	69.3	0.4
70	50	14	69.8	0.8
70	55	10	69.8	0.8
70	60	6	69.8	0.4
70	60	7.5	69.8	0.4
70	60	9	69.8	0.4
70	60	12.5	69.8	0.4
72	60	9.5	71.8	0.4
75	55	14	74.8	0.8
75	63	7.5	74.8	0.4
75	63	9	74.8	0.4
75	65	6	74.8	0.4
77	65	9	76.8	0.4
77	65	9.1	76.8	0.4
80	50	25	79.8	0.8
80	60	14	79.8	0.8
80	65	11	79.8	0.8
80	70	7.5	79.8	0.4
82	70	9	81.8	0.4
83	75	6	82.8	0.2
84	70	12	83.8	0.4
85	65	14	84.8	0.8
85	70	9.5	84.8	0.8
85	70	11.5	84.8	0.8

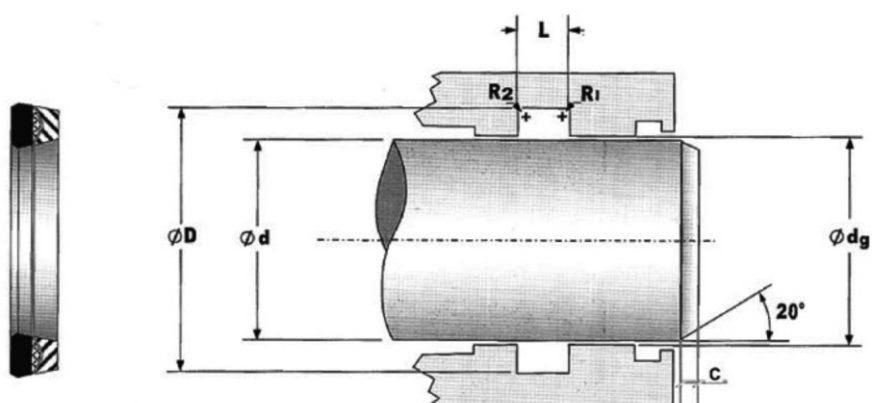
D	d	L	dc	R1
85	75	7.5	84.8	0.4
90	70	14	89.8	0.8
90	78	12	89.8	0.4
90	80	7.5	89.8	0.4
91	81	7.5	90.8	0.4
92	80	9	91.8	0.4
95	65	17	94.8	0.8
95	80	12.5	94.8	0.4
95	85	7.5	94.8	0.4
96	80	10	95.8	0.8
96	88	7.5	95.8	0.2
97	85	9	96.8	0.4
100	80	14	99.8	0.8
100	90	10	99.8	0.4
102	90	9	101.8	0.4
105	90	9	104.8	0.8
107	95	12	106.8	0.4
110	90	20	109.8	0.8
112	92	20	111.8	0.8
115	100	11	114.8	0.8
115	100	12	114.8	0.8
120	100	14	119.8	0.8
124	110	9	123.8	0.8
125	110	11	124.8	0.4
125	110	11.8	124.8	0.4
125	115	7.5	124.8	0.4
128	120	8	127.8	0.2
133	123	7.5	132.8	0.4
140	125	11	139.8	0.4
140	125	11.8	139.8	0.4
145	130	14.5	144.8	0.8
150	125	14	149.8	0.8
157.7	145	9	157.5	0.4
170	150	14	169.8	0.8

The above sizes are commonly used specifications, and other specifications are available for order.

Rod Seal



FOLON-A



d	D	dg	L	R1	R2
± 0.001	± 0.003	MAX	$+0.015$ $+0.025$	MAX	MAX

Temperature °C	Pressure	Speed
-30	6000psi	1.5ft/sec
+90	400bar	0.5m/sec

Surface treatment	
Dynamic	16μm Ra
Static	32μm Ra

Bevel dimensions	
D	C
0-2.5	0.150
2.5-5	0.200
5-7	0.250
7-10	0.300
10-16	0.400

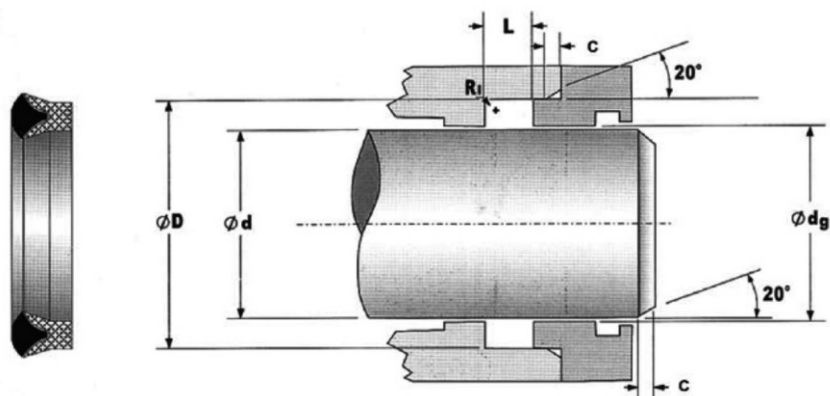
Imperial system

d	D	dg	L	R1	R2
2.750	3.200	2.760	0.750	0.020	0.030
3.500	4.013	3.510	0.750	0.020	0.030
4.365	4.888	4.375	0.750	0.020	0.030
5.249	6.889	5.260	0.775	0.020	0.030
6.312	5.888	6.322	0.750	0.020	0.030
7.312	7.954	7.322	0.750	0.020	0.030
8.375	9.000	8.385	0.750	0.020	0.030
9.437	10.216	9.450	1.750	0.020	0.030



Rod Seal

FOLON-A



D	D>120	d	L	Dg	R1
H11	H10	MAX	+0.4(+0.016) +0.6(+0.024)	+0.1 -0	MAX

Temperature °C	Pressure	Speed
-30 + 100	2500psl 170bar	1.5ft/sec 0.5m/sec

Surface treatment	
Dynamic	0.04µm Ra
Static	0.08µm Ra

Bevel dimensions	
D	C
0-60	4
60-120	5
120-180	6
180-250	8
250-400	10

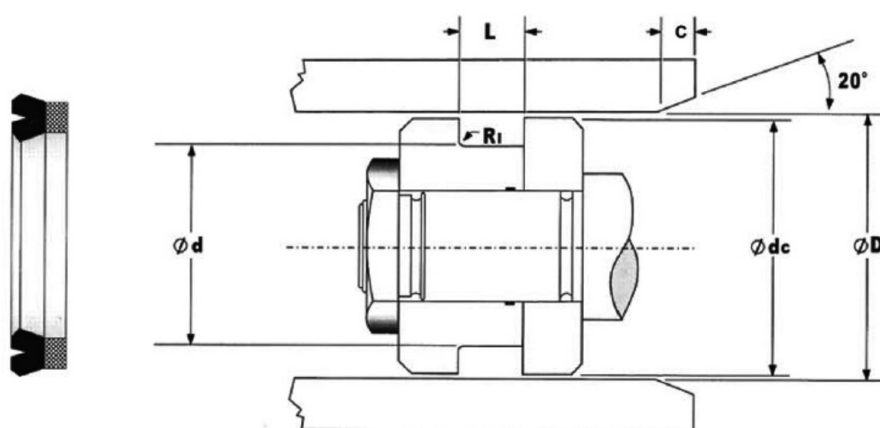
Imperial system

D	d	dg	L	R1
40	25	25.3	10	0.2
50	35	35.3	10	0.2
70	50	50.3	14.4	0.2
80	60	60.3	14.6	0.2
90	70	70.3	14.6	0.2
100	80	80.3	14.6	0.2
125	100	100.3	16.7	0.2
242	218	218.3	15.5	0.2

Rod Seal



FOLON-A



D	D>120 (5.000)	d	d>120 (5.000)	L	dc	R1
H11	H10	J's11	J's10	+0.4 +0.6 (+0.016) (+0.024)	+0.1 -0 (+0.004) -0	MAX

Temperature °C	Pressure	Speed
-30 + 100	3000psl 200bar	1.5ft/sec 0.5m/sec

Surface treatment	
Dynamic	0.04µm Ra
Static	0.08µm Ra

Bevel dimensions	
D	C
0-60	4
60-120	5
120-180	6
180-250	8
250-400	10

Metric system

D	d	L	dc	R1
71	56	9.5	70.8	0.8
78	63	9.5	77.8	0.8
80	65	12	79.8	0.8

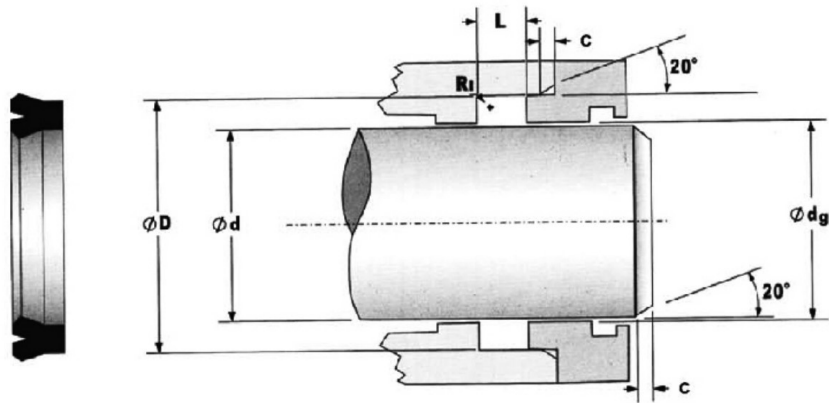
Imperial system

D	d	L	dc	R1
1.500	1.000	0.250	1.492	0.015
2.125	1.500	0.468	2.117	0.015
2.250	1.625	0.437	2.242	0.015
2.375	1.750	0.437	2.367	0.015
2.375	2.000	0.360	2.367	0.010
2.625	2.000	0.312	2.617	0.015



Rod Seal

FOLON.A



D	D>120 (5.000)	d	d>120 (5.000)	dg	L
H11	H10	js11	js10	+0.1 -0 (+0.004 -0) imperial	+0.4 +0.6 (+0.016 +0.024) imperial

Temperature °C	Pressure	Speed
-30	1500psl	1.5ft/sec
+90	100bar	0.5m/sec

Surface treatment	
Dynamic	0.04µm Ra
Static	0.08µm Ra

Bevel dimensions	
D	C
0-60	4
60-120	5
120-180	6
180-250	8
250-400	10

Rod Seal



FOLON-A

D	d	L	dg	R1
9	5	2	5.1	0.2
12	6	4	6.1	0.2
12	6	8	6.1	0.2
12	8	4	8.1	0.2
12.5	7	3.5	7.1	0.2
13.4	8.8	4.2	8.9	0.2
14	9.5	2.4	9.6	0.2
14	8	3.2	8.1	0.2
16	10	4	10.1	0.2
18	10	6	10.1	0.2
19	12	6	10.1	0.2
20	12	6.5	12.1	0.2
20	14	4.2	14.1	0.2
21.98	15.95	2.9	11.1	0.4
22	11	6	11.1	0.4
22	15	4	15.1	0.2
22	16	6	16.1	0.2
24	12	10	12.1	0.4
25	8	5	8.1	0.4
25	14	6	14.1	0.4
25	15	8	15.1	0.4
25	18	5	18.1	0.4
27	20	6	20.1	0.2
28	18.5	6.4	18.6	0.2
30	15	1.0	15.1	0.8
30	20	6	20.1	0.4
30	20	8	20.1	0.4
30	20	10	20.1	0.4
30	22	7.5	22.1	0.2
32	12	10	12.1	0.8
32	22	6	21.1	0.4
34	24	5	24.1	0.4
36	28	4.3	28.1	0.2

D	d	L	dg	R1
38	25	8	25.1	0.4
38.1	30.1	4	30.2	0.2
40	25	6	25.1	0.8
40	32	7.5	32.1	0.2
42	30	10	30.1	0.2
45	30	10	30.1	0.8
45	36	6	36.1	0.2
50	32	10	32.1	0.8
50	35	8	35.2	0.8
50	40	10	40.1	0.4
57	42	10	42.2	0.4
60	40	12	40.2	0.8
60	45	10	45.2	0.8
60	50	10	50.1	0.4
63	48	10	48.2	0.8
65	53	10	53.1	0.4
70	60	10	60.1	0.4
74.5	64.5	8	64.7	0.4
75	60	10	60.2	0.4
78	68	10	68.2	0.4
80	65	12	65.5	0.8
80	70	12	70.1	0.4
85	75	11	75.1	0.4
86	62	12	62.2	0.8
100	90	11	90.1	0.4
115	105	11	105.1	0.4
130	120	11	120.1	0.4
150	130	16	130.2	0.8
150	140	11	140.1	0.4
198	182	8	182.1	0.4

The above sizes are commonly used specifications, and other specifications are available for order.



Rod Seal

FOLON-A

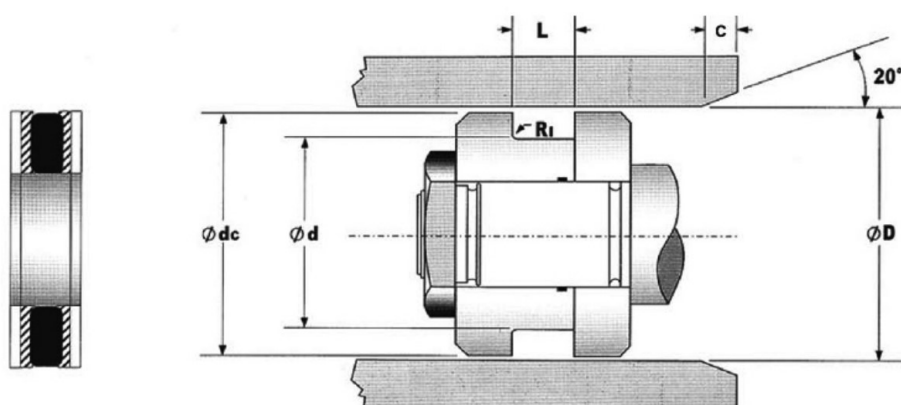
Imperial size

D	d	L	dg	R1
0.562	0.250	0.160	0.254	0.010
0.625	0.250	0.187	0.254	0.010
0.750	0.500	0.125	0.504	0.010
0.812	0.437	0.192	0.441	0.010
1.062	0.687	0.187	0.691	0.010
1.125	0.750	0.295	0.754	0.010
1.125	0.750	0.192	0.754	0.010
1.250	0.875	0.230	0.879	0.010
1.500	1.000	0.250	1.004	0.010
1.500	1.125	0.255	1.129	0.010
1.500	1.125	0.192	1.254	0.010
1.500	1.187	0.156	1.191	0.010
1.750	1.250	0.255	1.254	0.010
1.750	1.375	0.250	1.379	0.010
2.000	1.250	0.375	1.258	0.032
2.000	1.625	0.187	1.633	0.010
2.125	1.625	0.320	1.633	0.015
2.187	1.500	0.253	1.508	0.015
2.250	1.625	0.330	1.633	0.015
2.250	1.750	0.255	1.758	0.015
2.250	1.875	0.187	1.883	0.015
2.375	1.750	0.313	1.758	0.015
2.500	2.000	0.375	2.008	0.015
3.000	2.250	0.375	2.258	0.032
3.000	2.500	0.187	2.508	0.032
3.500	2.750	0.188	2.758	0.032
5.000	4.250	0.450	4.258	0.032
7.000	5.750	0.522	5.758	0.046
7.000	6.250	0.500	6.258	0.032
8.000	6.500	0.780	6.508	0.050
8.000	6.750	0.625	6.758	0.046
8.000	7.375	0.313	7.383	0.046

Rod Seal



FOLON-A



D	d	L	dg	R1
H11	h11	+0.2 -0	±0.1	MAX

Temperature °C	Pressure	Speed
-30	6000psl	1.5ft/sec
+100	400bar	0.5m/sec

Surface treatment	
Dynamic	0.04µm Ra
Static	0.08µm Ra

Bevel dimensions	
D	C
0-60	4
60-120	5
120-180	6
180-250	8
250-400	10

D	d	L	dc	R1
115	90	23	114.8	0.2
125	100	25.4	124.8	0.2
135	110	24.4	134.8	0.2
145	120	25	144.8	0.2



Rod Seal

FOLON.A

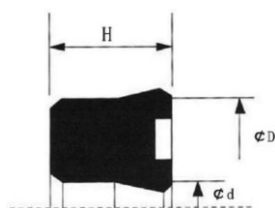


Figure A

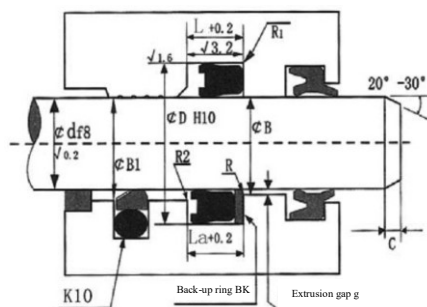


Figure C

In case of metal guide, a spiral oil groove should be opened in the front section of the seal, and the fit tolerance between the seat bore and the piston rod should be H9/f8.

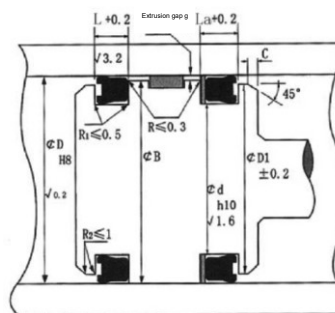


Figure B

In case of metal guide, the fit tolerance between bore and piston should be H9/f8

How to determine the size of B (when g is at its maximum)

Maximum working pressure P	$P \leq 14 \text{ MPa}$	$P \leq 25 \text{ MPa}$
Without back-up ring (shaft seal)	$B \leq d + 0.4$	$B \leq d + 0.3$
With F4 back-up ring (shaft seal)	$B \leq d + 0.8$	$B \leq d + 0.6$
With PA back-up ring (shaft seal)	$B \leq d + 1.0$	$B \leq d + 1.0$
Without back-up ring (piston seal)	$B \leq D - 0.4$	$B \leq D - 0.3$
With F4 back-up ring (piston seal)	$B \leq D - 0.8$	$B \leq D - 0.6$
With PA back-up ring (piston seal)	$B \leq D - 1.0$	$B \leq D - 1.0$

Working conditions

Working pressure	Running speed	Working temperature
$P \leq 14 \text{ MPa}$	$V \leq 1 \text{ m/s}$	$-35 \sim 90^\circ \text{C}$
$P \leq 25 \text{ MPa}$	$V \leq 0.5 \text{ m/s}$	$-35 \sim 80^\circ \text{C}$

Relationship between chamfer length c and shaft diameter d/bore diameter D

$d/D \leq 30, C=3$	$d/D \leq 100, C=5$
$d/D \leq 250, C=7$	$d/D \leq 400, C=8$

Groove width L (La=L+back-up ring thickness)

$H < 6, L = H + 0.7$	$H \geq 6, L = H + 1$
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How to determine the size of B1 when serving as a shaft seal

$P \leq 25 \text{ MPa}, B1 = d + 1.6 \text{ mm}$	$P \leq 35 \text{ MPa}, B1 = d + 1. \text{ mm}$
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Round angle R

$R \leq 0.3$	$R1 \leq 0.5$	$R2 \leq 1$
--------------	---------------	-------------

How to determine the size of D1 when serving as a piston seal

$D < 100 \text{ mm}, D1 = D - 1 \text{ mm}$	$D \geq 100 \text{ mm}, D1 = D - 2 \text{ mm}$
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Rod Seal



FOLON-A

d	D	H	L
6	14	5.7	6.3
8	16	5.7	6.3
8	18	8	8.5
10	16	5	5.6
10	18	5.5	6.3
10	18	5.7	6.3
12	18	4.5	5
12	19	5	5.6
12	20	5.5	6.3
12	20	5.7	6.3
12	20	5.8	6.3
13	20	6	7
14	21	5	5.6
14	22	5.5	6.3
14	22	5.7	6.3
16	22	4	4.5
16	24	5.7	6.3
16	24	6	7
18	25	5	5.8
18	26	5.7	6.3
18	26	6	7
18	28	5.8	6.3
18	28	7	8
20	25	3	3.5
20	25	3.7	4.5
20	26	5	5.8
20	26	5.2	6
20	27	5.7	6.5
20	28	5.8	6.3
20	28	6	7
20	28	7	8
20	30	7.2	8
20	30	8	9
20	30	10	11
21	27	4.5	5
22	28	4.5	5.3
22	29	5	5.8
22	30	5.7	6.3
22	30	6	7
22	30	7	8
22	32	7	8

d	D	H	L
22	32	8	9
22	32	10	11
24	30	4.5	5
24	30	8	9
24	32	6	7
24	34	5.7	6.5
25	32	4	5
25	33	5.8	6.3
25	33	6	7
25	33	8	9
25	35	5	6
25	35	7	8
25	35	8	9
25	35	9	10
25	35	10	11
25	36	5	6
25	38	10	11
28	36	5.8	6.3
28	36	6	7
28	36	8	9
28	38	7	8
30	38	5.7	6.3
30	38	5.8	6.3
30	38	6	7
30	38	7	8
30	38	8	9
30	40	7	8
30	40	7.5	8.5
30	40	10	11
32	40	5.8	6.3
32	40	6	7
32	40	8	9
32	42	7	8
32	42	8	9
32	42	10	11
32	42.5	8	9
35	43	6	7
35	43	8	9
35	45	7	8
35	45	8	9
35	45	8.5	9.5

d	D	H	L
35	45	10	11
36	44	5.8	6.3
36	44	6	7
36	44	7	8
36	44	8	9
36	46	7	8
36	46	10	11
38	45	6	7
40	48	5.8	6.3
40	48	6	7
40	48	8	9
40	49.5	9.5	10.5
40	50	6	7
40	50	7	8
40	50	8	9
40	50	10	11
40	55	7.5	8.5
40	55	10	11
42	50	6	7
42	52	8.5	9.5
42	53	9	10
45	53	5.5	6.3
45	53	5.8	6.3
45	53	6	7
45	53	8	9
45	53	10	11
45	55	5.8	6.3
45	55	7	8
45	55	7.5	8.5
45	55	10	11
45	55	11	12
45	57.7	9.5	10.5
46	54	8	9
47	55	8	9
48	58	10	11
48	60	7	8
50	58	5.7	6.3
50	58	8	9
50	60	7	8
50	60	7.5	8.5
50	60	8	9



Rod Seal

FOLON-A

d	D	H	L
50	60	10	11
50	62	8	9
50	62	10	11
50	62.7	9.5	10.5
50	65	10	11
50	70	12	13
52	60	5.5	6.3
55	63	8	9
55	65	7.2	8
55	65	7.5	8.5
55	65	10	11
55	65	12	13
56	66	6.5	7.5
56	66	10	11
56	71	8.5	9.5
56	71	11.5	12.5
60	68	8	9
60	68	13	14
60	70	7	8
60	70	7.2	8
60	70	7.5	8.5
60	70	8	9
60	70	10	11
60	70	12	13
60	72	9	10
60	72	10	11
60	75	15	16.5
61	69	8	9
63	71	8	9
63	75	8.5	9.5
63	75	10	11
63	75	12	13
63	78	11.5	12.5
63	78	12.5	13.5
63	83	13.5	14.5
64	72	8	9
65	73	8	9
65	73	11.5	12.5
65	75	10	11
65	75	12	13
65	77	9	10

d	D	H	L
65	80	11.5	12.5
66	80	10	11
68	76	8	9
70	78	8	9
70	80	6.5	7.5
70	80	7	8
70	80	10	11
70	80	12	13
70	82	9	10
70	82	12	13
70	85	11.5	12.5
70	90	12	13
70	90	13.5	14.5
71	79	8	7
72	78	6	9
73	80	8	9
75	83	8	9
75	85	7.2	8
75	85	10	11
75	85	12	13
75	87	9	10
75	95	13.5	14.5
76	84	8	9
78	86	8	9
78	86	13	14
78	93	10.5	11.5
80	88	8	9
80	90	7.2	8
80	90	10	11
80	90	12	13
80	90	14	15
80	92	9	10
80	95	11.5	12.5
80	100	11.5	12.5
80	100	13.5	14.5
81	89	8	9
85	93	6.5	7.5
85	94	15	16
85	95	7	8
85	97	8.5	9.5
85	97	9	10

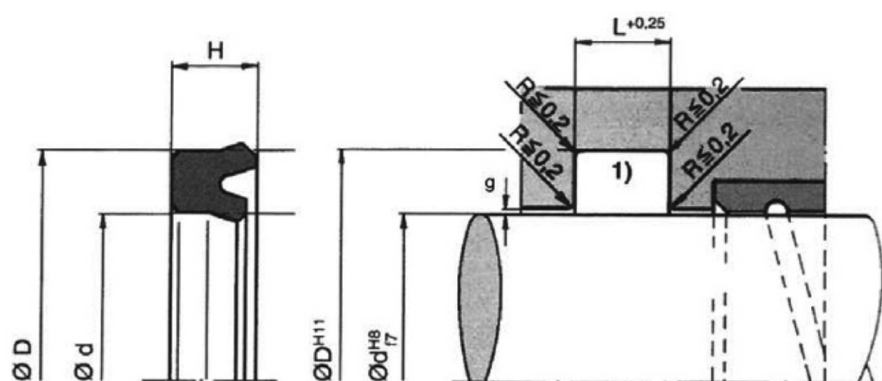
d	D	H	L
86	92	6	7
87	95	8	9
88	96	8	9
90	96	4.8	5.5
90	98	8	9
90	100	6.5	7.5
90	102	9	10
90	105	11.5	12.5
91	99	8	9
95	112	11.5	12.5
97	105	8	9
97	105	13	14
100	108	8	9
100	108	11.5	12.5
100	120	14.5	16
103	111	10	11
105	113	6.5	7.5
107	115	8	9
110	125	9.6	10.6
110	130	14.5	16
115	124	15	16
118	126	13	14
120	135	15	16
122	130	8	9
125	133	6.5	7.5
125	145	14.5	16
126	134	8	9
140	155	9.6	10.6
140	155.5	5.8	6.3
140	160	14.5	16
143	151	13	14
145	153	6.5	7.5
145	153	8	9
147	155	10	11
160	185	18.2	20
170	180	10	11
180	200	16	17.5

The above sizes are commonly used specifications, and other specifications are available for order.

Rod Seal



FOLON-A



d	D	H	L	d	D	H	L	d	D	H	L
6	10	3	3.5	14	24	7.2	8	20	28	7.2	8
6	12	4.5	5.2	14	24	8	9	20	30	6	7
6	12	5.5	5.8	15	23	5.7	6.3	20	30	7.2	8
6	13	5	5.6	15	23	10	11	20	30	8	9
6	14	5.7	6.3	15	25	8	9	20	30	10	11
8	14	4.5	5.2	15	26	7.2	8	20	32	7.5	8.5
8	14	5	5.6	15	27	12	13	20	35	10	11
8	14.4	9.5	10.5	16	20	3.3	3.6	20	40	20	21
8	16	5.7	6.3	16	22	5	5.5	22	29	5	5.6
8	16	6	7	16	22	10	11	22	30	5.7	6.3
8	16	8	9	16	24	5.7	6.3	22	30	7	8
8	18	8	9	16	24	6.2	7	22	30	8	9
8	20	8	9	16	26	7.2	8	22	32	6	7
9	16	5.7	6.3	16	26	8	9	22	32	7.2	8
10	16	4.5	5.2	16	26	9	10	22	32	8	9
10	17	5.7	6.3	18	24	4.7	5.2	22	32	10	11
10	18	5.7	6.3	18	25	5	5.6	23	40	18	19
10	18	6	7	18	25	6	5.6	24	34	7.2	8
10	20	7.2	8	18	26	5.7	6.3	24	34	8.5	9.5
10	20	8	9	18	26	6	7	25	32	6	7
12	18	5	5.5	18	26	8	9	25	33	5.7	6.3
12	19	5	5.6	18	28	7.2	8	25	33	6.2	7
12	20	5.7	6.3	18	28	8	9	25	33	6.5	7.3
12	20	6	7	20	26	3.5	3.9	25	33	7.2	8
12	22	7.2	8	20	26	5	5.6	25	33	8	9
12	22	8	9	20	27	6	7	25	33	10	11
14	21	5	5.6	20	28	4	5	25	35	6	7
14	22	5.7	6.3	20	28	5.7	6.3	25	35	7.2	8
14	22	6	7	20	28	6.2	7	25	35	7.5	8.5



Rod Seal

FOLON-A

d	D	H	L
25	35	8	9
25	35	10	11
25	37	6	7
25	38	9	10
25	40	10	11
25	40	11	12
28	36	5.7	6.3
28	36	6	7
28	36	8	9
28	38	6	7
28	38	7.2	8
28	38	8	9
28	38	10	11
28	39	8	9
28	40	8.5	9.5
28	40	10	11
28	43	11.5	12.5
28	48	18	19
29	35	5.7	6.3
30	38	5.7	6.3
30	38	6.3	7
30	38	8	9
30	40	5.7	6.3
30	40	6	7
30	40	7	8
30	40	7.2	8.2
30	40	8	9
30	40	9.5	10.5
30	40	10	11
30	40	10.3	11.3
30	43	9	10
30	45	8	9
30	45	10	11
32	40	5.7	6.3
32	40	6.7	7.5
32	40	8	9

d	D	H	L
32	42	7	8
32	42	7.2	8
32	42	7.5	8.5
32	42	8	9
32	42	10	11
32	42.53	8	9
32	45	9.5	10.5
32	45	10	11
32	47	10	11
33	43	10	11
35	43	5.7	6.3
35	43	8	9
35	45	6	7
35	45	7.2	8
35	45	8	9
35	45	10	11
35	45	12.5	13.5
35	46	8	9
35	46	9	10
35	50	8	9
35	50	10	11
35	55	12	13
36	44	5.7	6.3
36	44	8	9
36	46	7.2	8
36	46	8	9
36	46	10	11
36	48	7.2	8
36	48	8	9
36	51	10	11
36	51	11.5	12.5
36	56	12	13
37	45	5.7	6.3
37	47	10	11
38	44.5	4.7	5.3
38	45	5	5.5

d	D	H	L
38	45	6	7
38	45	6.2	7
38	50	10	11
40	48	5.7	6.3
40	48	8	9
40	48	11	12
40	49.52	9.5	10.5
40	50	7.2	8
40	50	8	9
40	50	10	11
40	50	12.5	13.5
40	52	8	9
40	55	7.2	8
40	55	10	11
40	55	11.5	12.5
40	60	12	13
42	50	5.7	6.3
42	50	6.5	7.5
42	52	10	11
42	62	10	11
42	62	12	13
45	53	5.7	6.3
45	53	8	9
45	53	10	11
45	53	12	13
45	55	5.7	6.3
45	55	7.2	8
45	55	7.5	8.5
45	55	10	11
45	57	9	10
45	57.7	9.5	10.5
45	58	9	10
45	60	10	11
45	60	11.5	12.5
45	65	10	11
45	65	12	13

Rod Seal



d	D	H	L
45	65	13.5	14.5
46	56	7.2	8
50	58	8	19
50	60	6	7
50	60	7.2	8
50	60	7.5	8.5
50	60	10	11
50	60	12	13
50	62	8	9
50	62.7	9.5	10.5
50	65	10	11
50	65	11.5	12.5
50	68	9	10
50	70	10	11
50	70	12	13
50	70	13.5	14.5
50	70	14	15.5
52	62	10	11
55	63	7	8
55	63	8	9
55	63	12	13
55	65	7.2	8
55	65	10	11
55	65	12	13
55	65	13.5	14.5
55	67	10	11
55	70	10	11
55	70	12	13
55	75	12	13
55	75	13.5	14.5
56	66	6.5	7.5
56	66	7	8
56	66	8	9
56	66	10	11
56	68	9.5	10.5
56	71	8.6	9.5

d	D	H	L
56	71	10	11
56	71	11.5	12.5
56	71	12	13
56	76	12	13
56	76	13.5	14.5
56	76	15	16
60	68	8	9
60	70	7.2	8
60	70	10	11
60	70	12	13
60	70	13.5	14.5
60	72	8	9
60	72	9	10
60	72	9.5	10.5
60	75	10	11
60	75	11.5	12.5
60	75	12	13
60	77	11	12
60	80	12	13
60	80	13.5	14.5
61	69	7.5	8.5
62	74	13	14
62.5	75.1	7.5	8.5
63	73	6.5	7.5
63	73	10	11
63	73	12	13
63	75	8.7	9.6
63	75	9.5	10.5
63	75	10	11
63	78	10	11
63	78	11.5	12.5
63	78	12	13
63	83	12	13
63	83	13.5	14.5
63	83	15	16
65	75	10	11

d	D	H	L
65	75	12	13
65	75	13.5	14.5
65	77	8.6	9.6
65	77	9	10
65	78	10	11
65	80	10	11
65	80	12	13
65	85	12	13
65	85	13.5	14.5
69.8	85	13	14
70	78	8	9
70	78	12	13
70	80	6	6.5
70	80	6.5	7.5
70	80	7.2	8
70	80	10	11
70	80	12	13
70	82	9	9.6
70	83	10	11
70	85	10	11
70	85	11.5	12.5
70	85	12	13
70	90	12	13
70	90	13.5	14.5
70	90	15	16
72	80	12	13
73	82.5	7.2	8
73	94	15	16
75	85	7.2	8
75	85	12	13
75	85	13.5	14.5
75	87	8.6	9.6
75	90	10	11
75	90	12	13
75	95	12	13
75	95	13.5	14.5

FOLON-A



Rod Seal

FOLON-A

d	D	H	L
76	84	7.5	8.5
80	90	7.2	8
80	90	10.5	11
80	90	12	13
80	90	14	15
80	92	8.6	9.6
80	92	10	11
80	93	10	11
80	95	10	11
80	95	11.5	12.5
80	95	12	13
80	100	12	13
80	100	13.5	14.5
80	100	15	16
82.55	98.5	13	14
85	94	14	15
85	95	7.2	8
85	95	12	13
85	97	8.6	9.6
85	100	11	12
85	100	11.5	12.5
85	100	12	13
85	105	12	13
85	105	13.5	14.5
90	100	6.5	7.5
90	100	10	11
90	100	11.5	12.5
90	100	12	13
90	102	9	10
90	102	10	11
90	105	8.5	9.5
90	105	9.5	10.5
90	105	10	11
90	105	11.5	12.5
90	105	12	13
90	110	12	13

d	D	H	L
90	110	15	16
91	99	7.5	8.5
92	105	9.5	10.6
93	104	10	11
95	103	12	13
95	105	10	11
95	105	12	13
95	110	9	10
95	110	12	13
95	115	12	13
100	108	12	13
100	110	14	15
100	112	16	17
100	113	12.5	13.5
100	115	9	10
100	115	10	11
100	115	10.5	11.5
100	115	11	12
100	115	12	13
100	120	11.5	12.5
100	120	12	13
100	120	13.5	14.5
100	120	15	16
100	125	19	20
105	115	10	11
105	115	11.5	12.5
105	115	13.5	14.5
105	120	9.5	10.2
105	120	9.9	10.5
105	120	12	13
105	120	15	16
105	125	12	13
105	125	14.5	16
110	115	10	11
110	120	12	13
110	125	9.6	10.6

d	D	H	L
110	125	11	12
110	125	12	13
110	125	15	16
110	130	12	13
110	130	15	16
110	135	19	20
115	125	12	13
115	135	12	13
115	135	15	16
120	130	7.2	8
120	130	11.5	12.5
120	130	13.5	14.5
120	132	10	11
120	135	11.5	12.5
120	135	15	16
120	140	12	13
120	140	14.6	15.5
120	140	15	16
125	135	13.5	14.5
125	140	11	12
125	145	12	13
125	145	15	16
125	150	14	15
125	150	19	20
125	155	18	19
127	139	9.2	10
130	140	7.2	8
130	140	13.5	14.5
130	145	12	13
130	145	14	15
130	145	15	16
130	150	12	13
130	150	15	16
135	145	12	13
140	150	11.5	12.5
140	150	11.8	12.8



Rod Seal

d	D	H	L
140	155	9.6	10.6
140	155	12	13
140	160	12	13
140	160	15	16
140	165	19	20
142	155	12	13
145	155	13.5	14.5
145	157	9	10
145	165	14.5	16
145	185	13.5	14.5
147	160	12	13
150	160	13.5	14.5
150	170	12	13
150	170	13.5	14.5
150	170	15	16
155	165	12	13
160	169	13.5	14.5
160	170	12	13
160	180	12	13
160	180	15	16
160	185	15	16
160	185	19	20
160	190	18	19
165	195	20	21
170	180	14.5	15.5
170	190	12	13
170	190	15	16
170	200	18	19
175	195	16	17
180	200	12	13
180	200	15	16
180	200	19	20
180	205	15	16
185	195	12	13
190	210	12	13
190	210	15	16

d	D	H	L
198	207.6	6.5	7.5
200	212	15	16
200	220	12	13
200	220	15	16
200	225	15	16
200	225	19	20
200	240	18	19
210	230	12	13
210	230	15	16
210	235	24.5	26
215	225	12	13
220	240	12	13
220	240	15	16
220	250	18	19
230	250	12	13
230	260	23.6	25
235	255	12	13
240	250	12	13
240	260	12	13
240	260	15	16
240	270	18	19
250	270	12	13
250	270	15	16
250	280	22	23
270	300	18	19
280	300	15	16
280	305	15	16
280	310	24	25
320	340	15	16

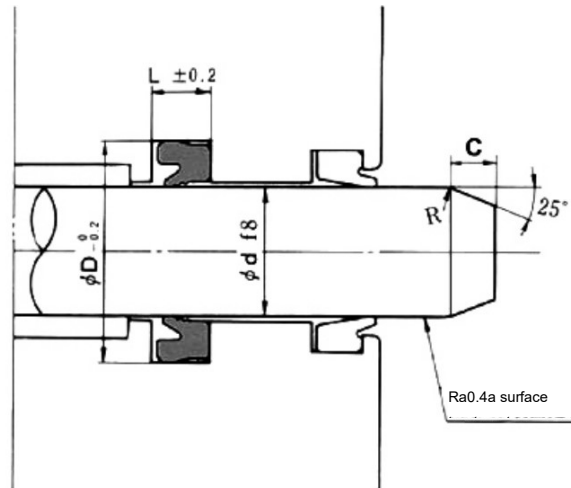
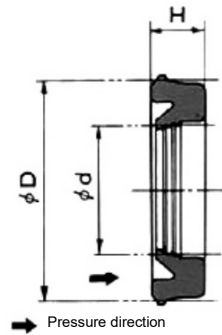
d	D	H	L
18	26	5	5.7
20	26	5	5.7
22.4	30	5	5.7
28	35.5	5	5.7
35	45	6	7
35.5	45	6	7
40	50	6	7
45	55	6	7
45	56	7	8
50	60	6	7
55	65	6	7
56	66	6	7
63	73	6	7
67	77	6	7
70	80	6	7
75	85	6	7
80	90	6	7
85	100	9	10
90	105	9	10
100	115	9	10
112	125	9	10
125	140	9	10
140	155	9	10
160	175	9	10
165	180	9	10
180	200	12	13
200	220	12	13

The above sizes are commonly used specifications, and other specifications are available for order.



Rod Seal

FOLON.A



NBR

(PNY series)

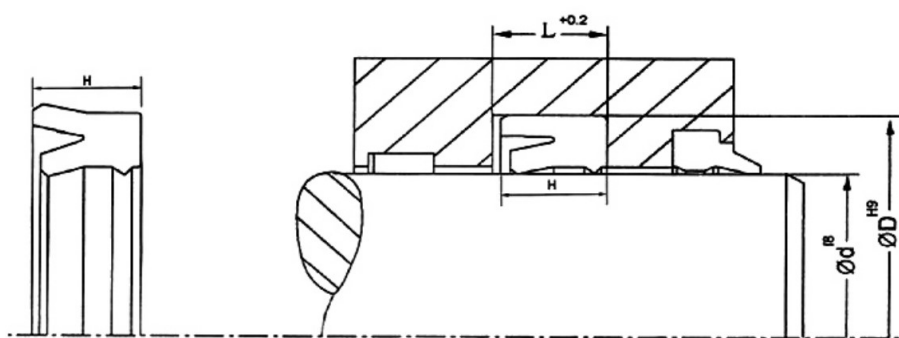
d	D	H	L	C
16	24	5.2	5.7	1.5
18	26	5.2	5.7	1.5
20	28	5.2	5.7	1.5
22	30	5.2	5.7	1.5
22.4	30	5.2	5.7	1.5
25	33	5.2	5.7	1.5
28	36	5.2	5.7	1.5
30	40	6.5	7	3
32	42	6.5	7	3
35	45	6.5	7	3
35.5	45.5	6.5	7	3
36	46	6.5	7	3
40	50	6.5	7	3
45	55	6.5	7	3
50	60	6.5	7	3
55	65	6.5	7	3
60	70	6.5	7	3
70	80	6.5	7	3

The above sizes are commonly used specifications, and other specifications are available for order.

Rod Seal



FOLON-A



d	D	H	L
4	12	6	7
6	13	5	5.5
6	14	5.5	6.5
6	14	5.7	6.3
6	16	6	7
8	16	5.5	6.5
8	16	5.7	6.3
8	16	8	9
8	18	8	9
9	16	5.7	6.3
10	16	4.5	5.3
10	17	5.7	6.3
10	18	5.5	6.5
10	18	5.7	6.3
10	20	4.5	5
10	20	7	8
10	20	8	9
12	20	5.5	6.5
12	20	5.7	6.3
12	20	8	9
12	22	7.3	8
12	22	8	9
14	22	5.5	6.5
14	22	5.7	6.3
14	24	7.3	8
14	24	8	9
15	25	8	9

d	D	H	L
15	26	7	8
15.4	25.5	6.5	7.4
16	24	5.5	6.5
16	24	5.8	6.3
16	26	7	8
16	26	7.3	8
16	26	8	9
18	25	5	5.5
18	26	5.5	6.5
18	26	6.3	7
18	26	8	9
18	28	7.3	8
18	28	8	9
19.5	27.5	8	9
20	26	4.8	5.3
20	28	4	4.5
20	28	5.5	6.5
20	30	6	7
20	30	7	8
20	30	7.3	8
20	30	8	9
20	30	10	11
20	35	10	11
20	40	4.5	5
22	30	6	7
22	30	7	8
22	32	6	7

d	D	H	L
22	32	7.3	8
22	32	8	9
22	35	10	11
23	35	10	11
25	32	10	11
25	33	5.5	6.5
25	33	6	7
25	33	6.5	7.3
25	33	7.3	8
25	33	10	11
25	35	6	7
25	35	7	8
25	35	7.3	8
25	35	8	9
25	35	10	11
25	38	10	11
25	40	10	11
25	45	12	13
28	36	7	8
28	36	7.3	8
28	36	8	9
28	38	7.3	8
28	38	7.5	8.5
28	38	8	9
28	38	10	11
28	43	10	11
28	43	11.5	12.5



Rod Seal

FOLON-A

d	D	H	L
30	40	6.5	7.5
30	40	7.3	8
30	40	8	9
30	40	10	11
30	42	8.5	9.5
30	45	10	11
30	45	11	12
30	50	12	13
32	40	6.7	7.5
32	40	8	9
32	41.5	7.9	8.9
32	42	7.3	8
32	42	10	11
32	45	10	11
32	47	10	11
32	47	11.5	12.5
35	43	7.2	8
35	45	6.5	7.5
35	45	7	8
35	45	8	9
35	45	10	11
35	50	10	11
36	44	6.3	7
36	46	7	8
36	46	7.3	8
36	46	7.5	8.5
36	46	8	9
36	46	10	11
36	51	10	11
36	56	12	13
37	47	8	9
37	47	10	11
38	55	10	11
40	48	5.7	6.3
40	49.5	9.5	10.5
40	50	7.3	8

d	D	H	L
40	50	10	11
40	55	10	11
40	55	11.5	12.5
40	60	12	13
42	50	11.5	12.5
42	52	10	11
42	53	9	10
43	53	7.3	8
45	53	5.6	6.3
45	53	11.5	12.5
45	53	12	13
45	55	7	8
45	55	7.3	8
45	55	10	11
45	55	11.5	12.5
45	57.7	9.5	10.5
45	60	10	11
45	60	11.5	12.5
45	65	10	11
45	65	12	13
45	65	13	14
48	56	11.5	12.5
48	56	12	13
48	63	10	11
48	68	12	13
50	57	10	11
50	58	11.5	12.5
50	60	7	8
50	60	7.3	8
50	60	10	11
50	62	10	11
50	62.7	9.5	10.5
50	65	9.5	10.5
50	65	10	11
50	65	11	12
50	65	11.5	12.5

d	D	H	L
50	65	15.5	16.5
50	70	12	13
50	70	14	15
52	62	10	11
55	62.5	9	10
55	63	11.5	12.5
55	65	8.5	9.5
55	65	10	11
55	65	12	13
55	67	10	11
55	70	10	11
55	70	12	13
55	75	12	13
56	66	10	11
56	71	10	11
56	71	11.5	12.5
56	76	12	13
58	68	11.5	12.5
60	68	11.5	12.5
60	70	5.2	6
60	70	7.5	8.5
60	70	10	11
60	70	11.5	12.5
60	70	12	13
60	75	10	11
60	75	11.5	12.5
60	75	12	13
60	75	15.5	16.5
60	80	12	13
63	71	8	9
63	73	12	13
63	75	8.5	9.5
63	75	10	11
63	78	10	11
63	78	11.5	12.5
63	83	12	13

Rod Seal



FOLON-A

d	D	H	L
63	83	13.5	14.5
65	73	11.5	12.5
65	75	10	11
65	75	11.5	12.5
65	75	12	13
65	77.7	9.5	10.5
65	80	10	11
65	80	12	13
65	85	12	13
66	80	10	11
67	75	11.5	12.5
70	77.5	9	10
70	78	11.5	12.5
70	79	13	14
70	80	11.5	12.5
70	80	12	13
70	85	10	11
70	85	11.5	12.5
70	85	12	13
70	90	12	13
70	90	15	16
73	82.4	7	7.8
75	83	11.5	12.5
75	85	8.7	9.5
75	85	10	11
75	85	11.5	12.5
75	85	12	13
75	90	10	11
75	90	11	12
75	90	12	13
77	86	14	15
78	86	11.5	12.5
78	86	13.5	14.5
78	88	12	13
78	90	12	13
80	88	11.5	12.5

d	D	H	L
80	90	12	13
80	95	10	11
80	95	11.5	12.5
80	95	12	13
80	100	12	13
80	100	12.5	13.5
80	100	15	16
81	89	10.5	11.5
82.5	97.5	12	13
85	92.5	9	10
85	93	11.5	12.5
85	95	12	13
85	100	11.5	12.5
85	100	12	13
85	105	12	13
90	98	11.5	12.5
90	100	11.5	12.5
90	100	12	13
90	105	11.5	12.5
90	105	12	13
90	110	12	13
92	107	11.4	12.5
93	101	11.5	12.5
95	103	11.5	12.5
95	105	8.7	9.5
95	105	12	13
95	115	12	13
97	105	11.5	12.5
97	105	13	14
97	105	13.5	14.5
97	106	14	15
99	109	12	13
100	108	11.5	12.5
100	110	8	9
100	110	10	11
100	110	11.5	12.5

d	D	H	L
100	115	12	13
100	120	12	13
100	120	13	14
100	120	14.5	16
100	120	15	16
100	125	15	16
105	113	11.5	12
105	113	13.5	14
105	115	11.5	12
105	120	9.2	10
105	120	9.9	10
110	118	11.5	12
110	120	12	13
110	125	15	16
110	130	12	13
110	130	14.5	16
110	130	15	16
110	135	15	16
112	122	10	11
113	123	8.7	9.5
115	123	11.5	12.5
115	125	12	13
115	125	14	15
115	130	10	11
115	140	15	16
117	126	14	15
118	126	11.5	12
118	126	13	14
118	126	13.5	14
120	128	11.5	12
120	130	11.5	12
120	130	12	13
120	135	15	16
120	140	12	13
120	140	15	16
121	135	9	10



Rod Seal

FOLON-A

d	D	H	L
125	133	11.5	12.5
125	135	10	11
125	145	12	13
125	145	15	16
125	150	15	16
125	155	18	19
127	140	11.5	12.5
128	136	11.5	12.5
130	138	11.5	12.5
130	145	12	13
130	150	12	13
130	150	12.5	13.5
130	150	15	16
131	150	13	14
132	142	8.7	9.5
135	143	11.5	12.5
135	145	12	13
135	150	11.5	12.5
135	150	15	16
137	146	14	15
140	148	11.5	12.5
140	150	11.5	12.5
140	160	12	13
140	160	15	16
140	165	15	16
140	170	18	19
141	151	12	13
143	151	11.5	12.5
143	151	13	14
143	151	13.5	14.5
145	155	12	13
145	160	12	13
148	160	12	13
150	170	14.5	15.5
150	170	15	16
150	180	18	19

d	D	H	L
152	160	11.5	12.5
152	162	10	11
152	171	11.5	12.5
152.5	160	14	15
155	163	11.5	12.5
155	165	12	13
160	168	11.5	12.5
160	170	11.5	12.5
160	170	12	13
160	180	15	16
160	185	15	16
160	185	18.2	20
160	190	18	19
162	172	12	13
165	184	13	14
165	190	17	18
167	176	11.5	12.5
170	178	11.5	12.5
170	180	12	13
170	190	15	16
170	200	18	19
171	179	11.5	12.5
171	179	13	14
175	185	12	13
177	205	19	20
180	188	13.5	14.5
180	190	10	11
180	195	12.5	13.5
180	200	15	16
180	205	15	16
180	205	19	20
180	210	18	19
185	193	11.5	12.5
185	195	12	13
200	208	11.5	12.5
200	220	15	16

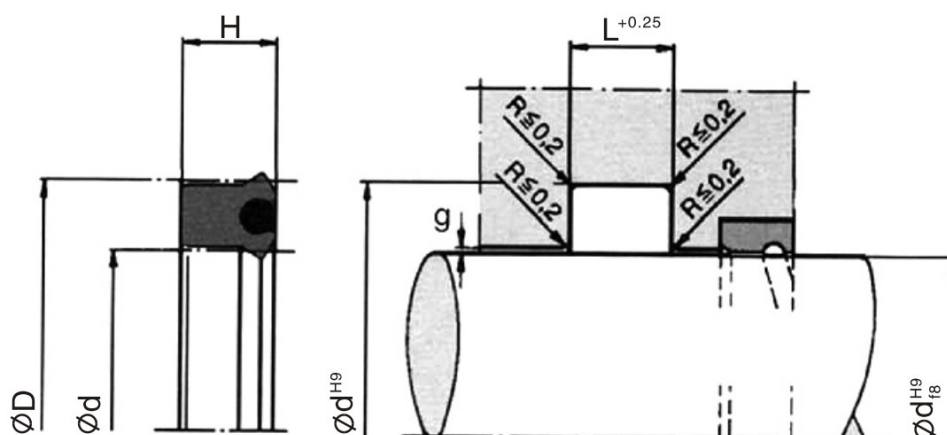
d	D	H	L
200	225	19	20
200	230	18	19
205	220	12.5	13.5
209	228	13	14
210	230	15	16
210	240	18	19
212	220	13.5	14.5
220	250	18	19
232	246	12	13
240	260	15	16
250	270	15	16
270	300	18	19
280	300	15	16
280	310	18	19
320	350	20	21
360	390	20	21

The above sizes are commonly used specifications, and other specifications are available for order.

Rod Seal



FOLON-A



PU

d	D	H	L	d	D	H	L
3	8.5	4	4.4	18	28	7.3	8
4.7	11	5	5.5	19	29	7.3	8
4.8	11.1	6.4	7	19.1	25.4	4.5	5
6	14	5.7	6.3	19.1	25.4	6.4	7
6.4	12.7	6.4	7	19.1	28.6	7.9	8.7
7.9	14.3	6.4	7	20	28	5.5	6
8	16	5.7	6.3	20	28	5.7	6.3
10	18	5.7	6.3	20	28	6.5	7.2
10	20	7.3	8	20	30	7.3	8
11.1	17.5	6.4	7	20	32.7	9.5	10.5
12	20	5.7	6.3	20.6	26.8	4.8	5.3
12	22	7.3	8	22	30	5.7	6.3
12.7	19.05	4.5	5	22	32	7.3	8
12.7	19.1	6.4	7	22	35	10	11
12.7	25.4	9.5	10.5	22.2	28.6	6.4	7
13	20	5	5.5	22.2	31.8	7.9	8.7
13	23	7.3	8	24	30	5	5.5
14	22	5.7	6.3	24	32	7	7.7
14	24	7.3	8	24	35	5.7	6.3
14.3	20.6	6.4	7	25	33	5.7	6.3
15	23	5.7	6.3	25	35	7	7.7
15.9	22.2	4.8	5.3	25	35	7.3	8
15.9	22.2	6.4	7	25	40	10	11
16	22.2	4.5	5	25	40	11	12.1
16	24	5.7	6.3	25.4	31.8	4.5	5
16	26	7.3	8	25.4	31.8	6.4	7
17.5	33.3	12.7	14	25.4	34.9	7.9	8.7
18	24	5	5.5	25.4	38.1	9.5	10.5
18	26	5.7	6.3	25.4	41.3	12.7	14



Rod Seal

FOLON A

d	D	H	L
28	35	6.5	7.2
28	36	5.7	6.3
28	38	7.3	8
28	43	11.4	12.5
28.6	34.9	4.5	5
28.6	34.9	6.4	7
28.6	38.1	7.9	8.7
28.6	41.3	9.5	10.5
30	38	5.7	6.3
30	38	7	7.7
30	40	7	7.7
30	40	7.5	8.3
30	42	10	11
30	45	8	8.8
30	45	11.4	12.5
30.2	39.7	7.9	8.7
31.8	38.1	4.5	5
31.8	38.1	6.4	5
31.8	41.3	6.8	7.5
31.8	41.3	7.9	8.7
31.8	44.5	9.5	10.5
31.8	47.6	12.7	14
32	40	5.7	6.3
32	40	6	6.6
32	42	6.3	6.9
32	42	7.3	8
32	47	11.4	12.5
34.9	41.3	4.8	5.3
34.9	44.5	7.9	8.7
35	43	5.7	6.3
35	43	6.5	7.2
35	45	8	8.8
35	45	10	11
35	47	10	11
35	50	11.4	12.5
36	44	5.7	6.3
36	46	7.3	8
36	51	11.4	12.5

d	D	H	L
38	50	7	7.7
38.1	44.5	4.5	5
38.1	44.5	6.4	7
38.1	47.6	6.4	7
38.1	47.6	6.8	7.5
38.1	47.6	7.4	8.1
38.1	47.6	9.5	10.5
38.1	50.8	9.5	10.5
38.1	54	12.7	14
38.1	57.2	15.9	17.5
40	48	5.7	6.3
40	49.5	9.5	10.5
40	50	7.3	8
40	50	10	1.1
40	52	10	1.1
40	55	10	1.1
40	55	11.4	12.5
41.3	50.8	7.9	8.7
41.3	50.8	9.5	10.5
41.3	57.2	12.7	14
41.7	50.7	7.1	7.8
42	50	6.5	7.2
44.5	53.9	7.2	7.9
44.5	54	6.8	7.5
44.5	54	9.5	10.5
44.5	57.2	9.5	10.5
44.5	60.3	12.7	14
45	53	7.3	8
45	55	7.3	8
45	55	8	8.8
45	55	10	11
45	57.7	9.5	10.5
45	60	11.4	12.5
45	65	11.4	12.5
47.6	57.2	4.8	5.3
47.6	57.2	9.5	10.5
47.6	60.3	9.5	10.5
47.6	63.5	9.5	10.5

Rod Seal



FOLON-A

d	D	H	L	d	D	H	L
48	60	10	11	60	70	10.5	11.6
50	58	8	8.8	60	70	12	13.2
50	60	7.3	8	60	72	9	9.9
50	60	7.5	8.3	60	72	10	11
50	60	10	11	60	75	13.5	14.9
50	60	11.4	12.5	60	80	12	13.2
50	62	9.5	10.5	60	80	14	15.4
50	63	10	11	63	73	5.5	6
50	65	11.4	12.5	63	75	8.7	9.6
50	70	14.6	16.1	63	78	11.4	12.5
50.4	69.9	15.9	17.5	63	83	14.5	16
50.8	60.3	7.9	8.7	63.5	73	9.5	10.5
50.8	60.3	9.5	10.5	63.5	76.2	6.4	7
50.8	63.5	9.5	10.5	63.5	76.2	9.5	10.5
50.8	66.7	12.7	14	63.5	79.4	12.7	14
52	62	7.3	8	64	80	12	13.2
53	63	7.3	8	65	73	7	7.7
54	63.5	6.8	7.5	65	75	10	11
54	63.5	9.5	10.5	65	77	8.7	9.6
54	66.7	9.5	10.5	65	85	12	13.2
54	69.9	12.7	14	65	85	15	16.5
55	65	7.3	8	66.7	76.2	6.8	7.5
55	65	11	12.1	66.7	76.2	9.5	10.5
55	70	11	12.1	66.7	79.4	9.5	10.5
55	75	14.5	16	68	88	15	16.5
55.9	70.4	12.7	14	69.9	82.6	9.5	10.5
56	66	10	11	69.9	85.7	12.7	14
56	71	11.4	12.5	69.9	88.9	15.9	17.5
56	76	14.6	16	70	80	11.4	12.5
57.2	66.7	6.8	7.5	70	82	8.7	9.6
57.2	66.7	7.9	8.7	70	82	9.5	10.5
57.2	66.7	9.5	10.5	70	85	9.5	10.5
57.2	69.6	9.5	10.5	70	85	11.4	12.5
57.2	76.2	15.9	17.5	70	90	12	13.2
60	68	7	7.7	70	90	14.5	16
60	68	11.4	12.5	73	80	7	7.7
60	68	13	14.5	73	82.6	6.8	7.5
60	70	7.3	8	73	82.6	9.5	10.5



Rod Seal

FOLON A

d	D	H	L
73	85.7	9.5	10.5
73	88.9	11.4	12.5
75	83	6.5	7.2
75	85	10.5	11.6
75	90	11.4	12.5
76.2	85.7	7.9	8.7
76.2	85.7	9.5	10.5
76.2	88.9	9.5	10.5
76.2	92.1	9.5	10.5
76.2	92.1	12.7	14
76.2	95.3	15.9	17.5
78	86	13	14.5
79.4	88.9	9.5	10.5
79.4	92.1	9.5	10.5
80	88	6.5	7.2
80	90	11.4	12.5
80	92	9	9.9
80	92.7	9.5	10.5
80	95	11.4	12.5
80	100	9.5	10.5
80	100	12	13.2
80	100	13.5	14.8
80	100	15	16.5
81	95	14.6	16
81.3	95.8	12.7	14
82	92	10	11
82.6	95.3	9.5	10.5
82.6	101.6	12.7	14
82.6	101.6	15.9	17.5
85	95	9.5	10.5
85	100	9.5	10.5
85	100	12	13.2
85	105	14.5	16
85.7	95.3	9.5	10.5
85.7	101.6	12.8	14.1
85.7	104.8	15.9	17.5
88.5	108.5	15	16.5
88.9	98.4	9.5	10.5

d	D	H	L
88.9	101.6	9.5	10.5
88.9	108	15.9	17.5
88.9	114.3	19.1	21
90	100	11.4	12.5
90	105	11.4	12.5
90	110	12	13.2
90	110	14.5	16
92.1	111.1	15.9	17.5
94	108.5	12.7	14
95	105	11.4	12.5
95	110	11.4	12.5
95.3	104.8	9.5	10.5
95.3	108	9.5	10.5
95.3	108	14.3	15.7
95.3	114.3	12.7	14
95.3	114.3	15.9	17.5
98.4	123.8	19.1	21
100	108	6.5	7.2
100	110	11.4	12.5
100	115	11	12.1
100	115	14.6	16
100	120	12	13.2
100	120	14.5	16
100	125	18.2	20
101.6	111.1	9.5	10.5
101.6	114.3	9.5	10.5
101.6	114.3	14.3	15.7
101.6	117.5	14.3	15.7
101.6	120.7	15.9	17.5
101.6	127	19.1	21
104.8	123.8	15.9	17.5
105	115	10	11
105	120	11.4	12.5
105	125	14.5	16
108	120.7	9.5	10.5
108	120.7	14.3	15.7
108	123	14.3	15.7
108	123.8	14.3	15.7

Rod Seal



FOLON-A

d	D	H	L	d	D	H	L
108	127	15.9	17.5	135	160	18.2	20
110	120	10.5	11.6	139.7	152.3	9.5	10.5
110	125	11.4	12.5	139.7	152.4	14.3	15.7
110	130	12	13.2	139.7	158.8	15.9	17.5
110	130	14.5	16	139.7	165.1	19.1	21
110	135	18.2	20	140	150	10.5	11.6
111.1	127	12.7	14	140	150	11.4	12.5
112	127	9	9.9	140	160	14.5	16
114.3	127	9.5	10.5	140	165	18.2	20
114.3	127	14.3	15.7	142.9	155.6	14.3	15.7
114.3	130.2	15.9	17.5	142.9	161.9	15.9	17.5
114.3	133.4	15.9	17.5	143	151	13	14.5
114.3	139.7	19.1	21	145	155	11.4	12.5
115	125	11.4	12.5	145	165	14.5	16
115	130	11.4	12.5	146.1	158.8	14.3	15.7
117.5	136.5	15.9	17.5	146.1	165.1	15.9	17.5
120	130	11.4	12.5	150	160	11.4	12.5
120	135	11.4	12.5	150	170	14.5	16
120	140	15	16.5	152.4	165.1	11.1	12.2
120.7	133.4	9.5	10.5	152.4	165.1	14.3	15.7
120.7	133.4	14.3	15.7	152.4	171.5	15.9	17.5
120.7	136.5	15.9	17.5	152.4	177.8	19.1	21
120.7	139.7	15.9	17.5	155	175	15	16.5
123.8	142.9	15.9	17.5	158.8	177.8	15.9	17.5
125	135	11.4	12.5	160	168	13	14.5
125	140	11.4	12.5	160	180	15	16.5
125	145	14.5	16	160	185	18.2	20
125	150	18.2	20	160	190	22.7	25
127	139.7	9.5	10.5	165	190	18.2	20
127	139.7	14.3	15.7	165.1	177.8	14.3	15.7
127	142.9	15.9	17.5	165.1	184.2	9.5	10.5
127	146.1	15.9	17.5	165.1	184.2	12.7	14
127	152.4	19.1	21	165.1	190.5	19.1	21
130	145	9	9.9	170	180	11.4	12.5
130	145	14.5	16	170	190	15	16.5
133.4	146.1	14.3	15.7	170	195	19	21
133.4	152.4	15.9	17.5	171	179	13	14.5
135	115	14.5	16	171.5	184.2	9.5	10.5



Rod Seal

FOLON A

d	D	H	L
171.5	184.2	14.3	15.7
171.5	187.3	15.9	17.5
175	185	11.4	12.5
175	195	15.9	17.5
177.8	190.5	14.3	15.7
177.8	196.3	12.7	14
177.8	196.9	15.9	17.5
177.8	203.25	19.1	21
180	190	11.4	12.5
180	200	15	16.5
180	205	18.2	20
180	210	22.7	25
184.2	203.2	15.9	17.5
187.3	206.4	12.7	14
190.5	203.2	14.3	15.7
196.9	215.9	12.7	14
200	210	11.4	12.5
200	220	15	16.5
200	220	18	19.8
200	220	19	20.9
200	225	18.2	20
200	230	22.7	25
203.2	215.9	14.3	15.7
203.2	222.3	15.9	17.5
203.2	228.6	19.1	21
204	220	16	17.6
205	225	18.2	20
206.4	219.1	14.3	15.7
210	230	14.5	16
215.9	228.6	14.3	15.7
215.9	241.3	19.1	21
218	230	9	9.9
220	240	15	16.5
220	250	18	19.8
220	250	22.7	25
222.3	241.3	12.7	14
222.3	241.4	19.1	21
235	260.4	19.1	21

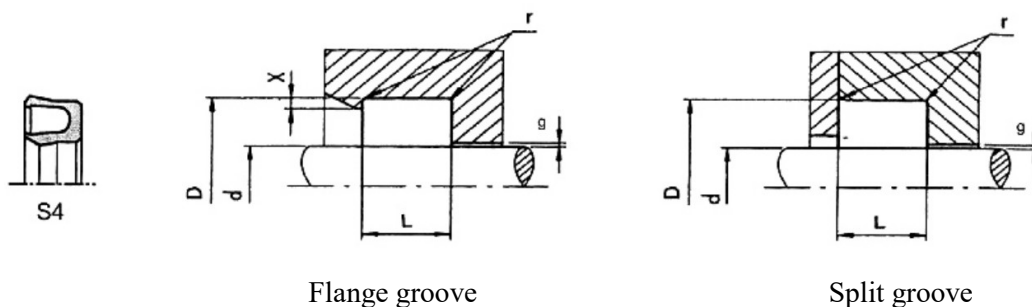
d	D	H	L
238.1	254	15.9	17.5
240	260	14.5	16
250	280	22.7	25
254	279.4	19.1	21
254	285.4	25.4	28
260.4	279.4	12.7	14
266.7	285.8	15.9	17.5
273.1	292.1	15.9	17.5
279.4	304.8	19.1	21
280	310	22.7	25
285.8	304.8	15.9	17.5
290	320	22.5	25
311.2	342.9	25.4	28
317.5	342.9	19.1	21
360	385	20	22
360	390	22.5	25
381	406.4	19.1	21
419.1	444.5	19.1	21
501.7	533.4	25.4	28

The above sizes are commonly used specifications, and other specifications are available for order.

Rod Seal



FOLON-A



Technical data	
Pressure	450bar 45mpa
Speed	≤15m/s (reciprocating movement) ≤3m/s (rotating movement)
Temperature	-200°C - +260°C
Medium	All liquids, chemicals and gases

Surface roughness	Ra	Rt
Shaft surface	≤0.2μm	≤3.0μm
Groove bottom	≤1.6μm	≤6.3μm
Groove side	≤1.6μm	≤1.6μm

Shaft diameter dh9	Groove diameter DH9	Width L+0.2	Radius r	Flange height X	Maximum radial gap gmax			
					2MPa	10MPa	20MPa	40MPa
3.0-9.9	d+2.9	2.4	0.4	0.4	0.20	0.10	0.08	0.05
10.0-19.9	d+4.5	3.6	0.4	0.6	0.25	0.15	0.10	0.07
20.0-39.9	d+6.2	4.8	0.6	0.7	0.35	0.20	0.15	0.08
40.0-119.9	d+9.4	7.1	0.8	0.8	0.50	0.25	0.20	0.10
20.0-999.9	d+12.2	9.5	0.8	0.9	0.60	0.30	0.25	0.12



Rod Seal

FOLON A

Rod diameter dh9	Groove diameter DH9	Width L+0.2
3	5.9	2.4
4	6.9	2.4
5	7.9	2.4
6	8.9	2.4
8	10.9	2.4
10	14.5	3.6
12	16.5	3.6
14	18.5	3.6
15	19.5	3.6
16	20.5	3.6
18	22.5	3.6
20	26.2	4.8
22	28.2	4.8
25	31.2	4.8
28	34.2	4.8
30	36.2	4.8
32	38.2	4.8
35	41.2	4.8
36	42.2	4.8
40	49.4	7.1
42	51.4	7.1
45	54.4	7.1
48	57.4	7.1
50	59.4	7.1
52	61.4	7.1
55	64.4	7.1
56	65.4	7.1
60	69.4	7.1
63	72.4	7.1
65	74.4	7.1
70	79.4	7.1
75	84.4	7.1
80	89.4	7.1

Rod diameter dh9	Groove diameter DH9	Width L+0.2
85	94.4	7.1
90	99.4	7.1
95	104.4	7.1
100	109.4	7.1
105	114.4	7.1
110	119.4	7.1
115	124.4	7.1
120	132.2	9.5
125	137.2	9.5
130	142.2	9.5
135	147.2	9.5
140	152.2	9.5
150	162.2	9.5
160	172.2	9.5
170	182.2	9.5
180	192.2	9.5
190	202.2	9.5
200	212.2	9.5
210	222.2	9.5
220	232.2	9.5
230	242.2	9.5
240	252.2	9.5
250	262.2	9.5
280	292.2	9.5
300	312.2	9.5
320	332.2	9.5
350	362.2	9.5
360	372.2	9.5
400	412.2	9.5

The above sizes are commonly used specifications, and other specifications are available for order.

S5



O-ring series	O-ring inside diameter	O-ring wire diameter
000	d+2	1.78
100	d+3.5	2.62
200	d+5	3.53
300	d+7	5.33
400	d+9.5	7.00
400	d+13	7.00
500	d+14.5	8.40

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Rod Seal

FOLON-A

Rod diameter df8	Groove outside diameter DH9	Width L+0.2	O-ring type	Rod diameter df8	Groove outside diameter D H9	Width L+0.2	O-ring type
4	8.9	2.2	010	38	53.1	6.3	327
5	9.9	2.2	011	38	48.7	4.2	223
6	10.9	2.2	011	40	55.1	6.3	328
7	11.9	2.2	012	40	50.7	4.2	224
8	15.3	3.2	111	42	52.7	4.2	225
8	12.9	2.2	012	42	57.1	6.3	328
10	17.3	3.2	113	45	60.1	6.3	329
10	14.9	2.2	013	45	55.7	4.2	226
12	19.3	3.2	114	50	65.1	6.3	331
12	16.9	2.2	015	50	60.7	4.2	227
14	21.3	3.2	115	56	71.1	6.3	333
14	18.9	2.2	016	56	66.7	4.2	229
15	19.9	2.2	016	60	75.1	6.3	334
15	22.3	3.2	116	60	70.7	4.2	230
16	23.3	3.2	116	63	78.1	6.3	335
16	20.9	2.2	017	65	80.1	6.3	336
18	25.3	3.2	118	70	85.1	6.3	337
18	22.9	2.2	018	75	90.1	6.3	339
20	30.7	4.2	214	80	95.1	6.3	340
20	27.3	3.2	118	85	100.1	6.3	342
22	32.7	4.2	215	90	105.1	6.3	344
22	29.3	3.2	120	95	110.1	6.3	345
25	35.7	4.2	217	100	115.1	6.3	347
25	32.3	3.2	122	105	120.1	6.3	348
28	35.3	3.2	124	110	125.1	6.3	350
28	38.7	4.2	219	115	130.1	6.3	351
30	40.7	4.2	220	120	135.1	6.3	353
30	37.3	3.2	125	125	140.1	6.3	355
32	42.7	4.2	221	130	145.1	6.3	356
32	39.3	3.2	126	135	150.1	6.3	358
35	42.3	3.2	128	140	155.1	6.3	359
35	45.7	4.2	222	150	165.1	6.3	362
36	46.7	4.2	223	160	175.1	6.3	363
36	43.3	3.2	129	170	185.1	6.3	365

Rod Seal



FOLON-A

Rod diameter df8	Groove outside diameter DH9	Width L+0.2	O-ring type
180	195.1	6.3	366
190	205.1	6.3	368
200	220.5	8.1	445
210	230.5	8.1	446
220	240.5	8.1	447
230	250.5	8.1	448
240	260.5	8.1	449
250	270.5	8.1	449
260	284.0	8.1	450
270	294.0	8.1	451
280	304.0	8.1	452
290	314.0	8.1	453
300	324.0	8.1	454
310	334.0	8.1	454
320	344.0	8.1	455
330	354.0	8.1	456
340	364.0	8.1	457
350	374.0	8.1	458
360	384.0	8.1	458
370	394.0	8.1	459
380	404.0	8.1	460
390	414.0	8.1	461
400	424.0	8.1	461
410	434.0	8.1	462
420	444.0	8.1	463
430	454.0	8.1	464
440	464.0	8.1	464
450	474.0	8.1	465
460	484.0	8.1	466
470	494.0	8.1	467
480	504.0	8.1	468
490	514.0	8.1	469
500	524.0	8.1	469
510	534.0	8.1	469

Rod diameter df8	Groove outside diameter DH9	Width L+0.2	O-ring type
520	544.0	8.1	470
530	554.0	8.1	470
540	564.0	8.1	471
550	574.0	8.1	471
560	584.0	8.1	471
570	594.0	8.1	472
580	604.0	8.1	472
590	614.0	8.1	473
600	624.0	8.1	473
610	634.0	8.1	473
620	644.0	8.1	474
630	654.0	8.1	474
640	664.0	8.1	475
650	677.3	9.5	665x8.4
660	687.3	9.5	675x8.4
670	697.3	9.5	685x8.4
680	707.3	9.5	695x8.4
690	717.3	9.5	705x8.4
700	727.3	9.5	715x8.4
710	737.3	9.5	725x8.4
-1000			

For large size seals, please inform us of the applications and working conditions, so we can provide detailed information.



Rod Seal

FOLON-A

1. Feature

S6 is a double combination seal for sealing piston rods, consisting of a special-shaped seal ring and a special-shaped rubber seal as a preloaded element.

2. Material

Special-shaped PTFE ring

Material: PTFE - Fiberglass - Molybdenum disulfide composite material or PTFE, 40% copper powder

Designation: PTFE M201

Special-shaped rubber seal

Material: NBR or FPM

Designation: 80NBR B246

Hardness: 80 Shore A

Other matching materials can be customized.

3. Performance

S6 is specially used for large diameter piston rods and heavy hydraulic equipment.

- Very high compressive stability under load
- Very good resistance to extrusion
- Anti-twist structure
- High contact pressure generated by special-shaped rubber ring
- High wear resistance
- Low friction, no stick-slip phenomenon

Applications

- Injection molding machines
- Steelmaking hydraulic equipment
- Marine hydraulic equipment
- Roller emulsifying machine
- Vulcanizing press
- Manipulator

Recommended tolerance and dimension D2

Permissible gap dimensions, tolerances, guide ring gaps and offset of guide rings under pressure can be observed from dimension D2.

4. Operating limit

Pressure: 40 MPa

Linear speed: 15 m/s

Medium/temperature	PTFEM201/80NBRB246 (PTFE-GLose-MoS2/NBR)
Hydraulic oil, HL/HLP	-30 ~+100
HFA/HFB fluid	+5 ~ +60
HFC fluid	-30 ~ +60
HFD fluid	-
Water	+5 ~ +100
HETG (rapeseed oil)	-30 ~ +80
HEES (synthetic ester)	-30 ~ +80
HEPG (ethylene glycol)	-30 ~+60
Mineral grease	-30 ~+100

5. Design basis

Surface quality		
Roughness/depth	Rmax	Ra
Slide surface	≤25μm	0.05-0.3μm
Groove bottom	≤6.3μm	≤1.6μm
Groove side	≤15μm	≤3μm

Cross-section support length ratio: M>50% and ≤ 90%;
depth of cut: C=Rz/2; and reference line: Cref=0%

6. Gap size

The maximum gap size on the non-pressure side of the seal during operation is decisive for the sealing function.

The permissible values are determined by the pressure as well as the cross-section width and height.

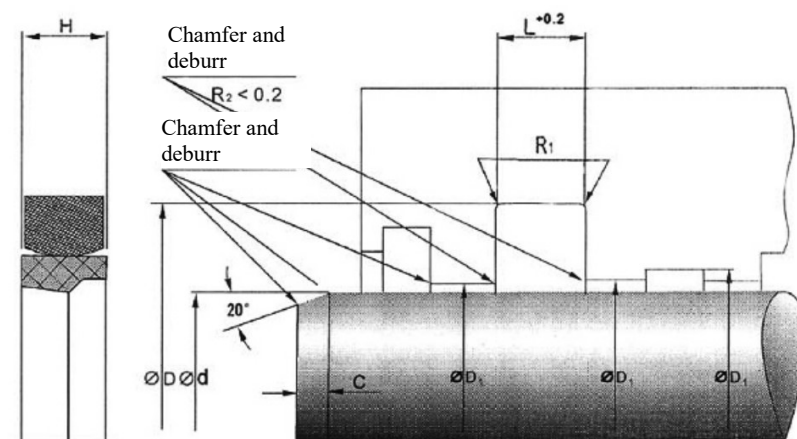
Cross-section dimensions		Maximum allowable gap size			
L	Cross-section	16MPa	26MPa	32MPa	40MPa
10	10	0.6	0.5	0.4	0.4
12.5	12.5	0.75	0.65	0.55	0.5
15	15	0.75	0.65	0.55	0.5
17.5	17.5	0.75	0.65	0.55	0.5
20	20	0.8	0.7	0.6	0.55

Recommended tolerance											
16MPa			26MPa			32MPa			40MPa		
Nominal diameter Φd	d	D	Nominal diameter Φd	d	D	Nominal diameter Φd	d	D	Nominal diameter Φd	d	D
100-1150	f8	H8	100-1150	f8	H8	100-1150	f7	H8	100-1150	f7	H8

Rod Seal



FOLON-A



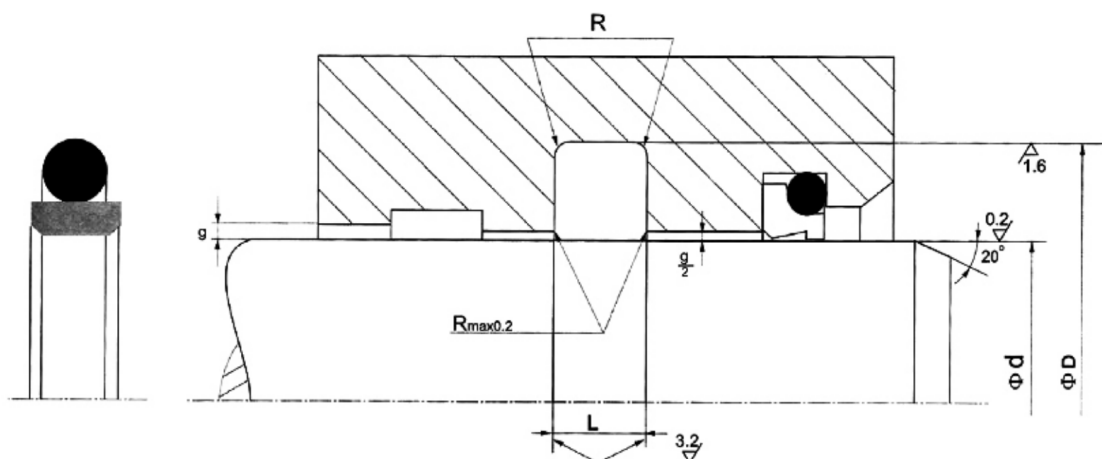
d	D	H	L
50	65	7	7.5
60	75	7	7.5
70	85	9.4	10
100	120	9.4	10
150	170	9.4	10
160	180	9.4	10
170	190	9.4	10
175	195	9.4	10
180	200	9.4	10
200	220	9.4	10
220	245	11.7	12.5
230	255	11.7	12.5
240	265	11.7	12.5
250	275	11.7	12.5
270	295	11.7	12.5
280	305	11.7	12.5
290	315	11.7	12.5
300	325	11.7	12.5
310	340	14	15
320	350	14	15
325	355	14	15
330	360	14	15
340	370	14	15
350	380	14	15
360	390	14	15
380	410	14	15
390	420	14	15
400	430	14	15
410	440	14	15
420	450	14	15
430	460	14	15
440	470	14	15
450	480	14	15
460	490	14	15
470	500	14	15
480	510	14	15

d	D	H	L
490	520	14	15
500	530	14	15
510	540	14	15
520	550	14	15
530	560	14	15
540	575	16.4	17.5
550	585	16.4	17.5
560	595	16.4	17.5
570	605	16.4	17.5
580	615	16.4	17.5
590	625	16.4	17.5
600	635	16.4	17.5
620	655	16.4	17.5
640	675	16.4	17.5
645	680	16.4	17.5
650	685	16.4	17.5
670	705	16.4	17.5
680	715	16.4	17.5
700	740	18.7	20
720	760	18.7	20
730	770	18.7	20
740	780	18.7	20
760	800	18.7	20
770	810	18.7	20
800	840	18.7	20
820	860	18.7	20
830	870	18.7	20
850	890	18.7	20
860	900	18.7	20
890	930	18.7	20
900	940	18.7	20
950	990	18.7	20
970	1010	18.7	20
1000	1040	18.7	20
1150	1190	18.7	20



Rod Seal

FOLON A



Rod diameter Φ d f8			Groove outside diameter	Groove width	Radial gap gmax		Maximum radius	O-ring series	O-ring wire diameter
Heavy-load series	Standard series	Light-load series							
			DH9	L+0.2	0-20MPa	20-40MPa	R		
	3-7.9	8-18.9	d+4.9	2.2	0.6-0.4	0.4-0.3	0.3-0.5	000	1.78
	8-18.9	19-37.9	d+7.3	3.2	0.8-0.5	0.5-0.3	0.5-0.8	100	2.62
8-18.9	19-37.9	38-199.9	d+10.7	4.2	0.8-0.5	0.5-0.4	0.8-1.2	200	3.53
19-37.9	38-199.9	200-255.9	d+15.1	6.3	1.0-0.6	0.6-0.4	1.2-1.5	300	5.33
38-199.9	200-255.9	256-649.9	d+20.5	8.1	1.0-0.6	0.6-0.5	1.5-2.0	400	7.00
200-255.9	256-649.9	650-999.9	d+24.0	8.1	1.2-1.0	0.8-0.6	1.5-2.0	400	7.00
256-649.9	650-999.9		d+27.3	9.5	1.4-1.0	1.0-0.7	2.0-3.0	500	8.40

O-ring series	O-ring inside diameter	O-ring wire diameter
000	d+2	1.78
100	d+3.5	2.62
200	d+5	3.53
300	d+7	5.33
400	d+9.5	7.00
400	d+13	7.00
500	d+14.5	8.40

**Under high pressure, gmax=H7-f7 (cylinder - piston)

Rod Seal



FOLON-A

Rod diameter df8	Groove outside diameter DH9	Groove width L ^{+0.2}	O-ring type	Rod diameter df8	Groove outside diameter DH9	Width L ^{+0.2}	O-ring type
4	8.9	2.2	010	50	65.1	6.3	331
5	9.9	2.2	011	50	60.7	4.2	227
6	10.9	2.2	011	56	71.1	6.3	333
7	11.9	2.2	012	56	66.7	4.2	229
8	15.3	3.2	111	60	75.1	6.3	334
8	12.9	2.2	012	60	70.7	4.2	230
10	17.3	3.2	112	63	78.1	6.3	335
10	14.9	2.2	014	65	80.1	6.3	336
12	19.3	3.2	113	70	85.1	6.3	337
12	16.9	2.2	015	75	90.1	6.3	339
14	21.3	3.2	114	80	95.1	6.3	340
14	18.9	2.2	016	85	100.1	6.3	342
16	23.3	3.2	116	90	105.1	6.3	344
16	20.9	2.2	017	95	110.1	6.3	345
18	25.3	3.2	118	100	115.1	6.3	347
18	22.9	2.2	019	105	120.1	6.3	348
20	30.7	4.2	214	110	125.1	6.3	350
20	27.3	3.2	119	115	130.1	6.3	351
22	32.7	4.2	215	120	135.1	6.3	353
22	29.3	3.2	120	125	140.1	6.3	355
25	35.7	4.2	217	130	145.1	6.3	356
25	32.3	3.2	122	135	150.1	6.3	358
30	40.7	4.2	220	140	155.1	6.3	359
30	37.3	3.2	125	150	165.1	6.3	362
32	42.7	4.2	221	160	175.1	6.3	363
32	39.3	3.2	126	170	185.1	6.3	365
36	46.7	4.2	223	180	195.1	6.3	366
36	43.3	3.2	129	190	205.1	6.3	368
40	55.1	6.3	328	200	220.5	8.1	445
40	50.7	4.2	224	210	230.5	8.1	446
45	60.1	6.3	329	220	240.5	8.1	447
45	55.7	4.2	226	230	250.5	8.1	448



Rod Seal

FOLON A

Rod diameter df8	Groove outside diameter DH9	Width L ^{+0.2}	O-ring type
240	260.5	8.1	449
250	270.5	8.1	449
260	284.0	8.1	450
270	294.0	8.1	451
280	304.0	8.1	452
290	314.0	8.1	453
300	324.0	8.1	454
310	334.0	8.1	454
320	344.0	8.1	455
330	354.0	8.1	456
340	364.0	8.1	457
350	374.0	8.1	458
360	384.0	8.1	458
370	394.0	8.1	459
380	404.0	8.1	460
390	414.0	8.1	461
400	424.0	8.1	461
410	434.0	8.1	462
420	444.0	8.1	463
430	454.0	8.1	464
440	464.0	8.1	464
450	474.0	8.1	466
460	484.0	8.1	466
470	494.0	8.1	467
480	504.0	8.1	468
490	514.0	8.1	469
500	524.0	8.1	469
510	534.0	8.1	469
520	544.0	8.1	470
530	554.0	8.1	470
540	564.0	8.1	471
550	574.0	8.1	471

Rod diameter df8	Groove outside diameter DH9	Width L ^{+0.2}	O-ring type
560	584.0	8.1	471
570	594.0	8.1	472
580	604.0	8.1	472
590	614.0	8.1	473
600	624.0	8.1	473
610	634.0	8.1	473
620	644.0	8.1	474
630	654.0	8.1	474
640	664.0	8.1	475
650	677.3	9.5	665×8.4
660	687.3	9.5	675×8.4
670	697.3	9.5	685×8.4
680	707.3	9.5	695×8.4
690	717.3	9.5	705×8.4
700	727.3	9.5	715×8.4
710	737.3	9.5	725×8.4
~1000			

For large size seals, please inform us of the applications and working conditions, so we can provide detailed information.

S8



A line graph showing the relationship between Maximum extrusion gap (g_{max}) in mm and Oil pressure in MPa. The y-axis ranges from 0 to 0.8 mm with major grid lines every 0.2 mm. The x-axis ranges from 0 to 40 MPa with major grid lines every 10 MPa. The curve starts at (20, 0.6) and decreases, passing through approximately (25, 0.4) and (30, 0.3), ending at (35, 0.28).

Oil pressure (MPa)	Maximum extrusion gap (g_{max}) (mm)
20	0.6
25	0.4
30	0.3
35	0.28

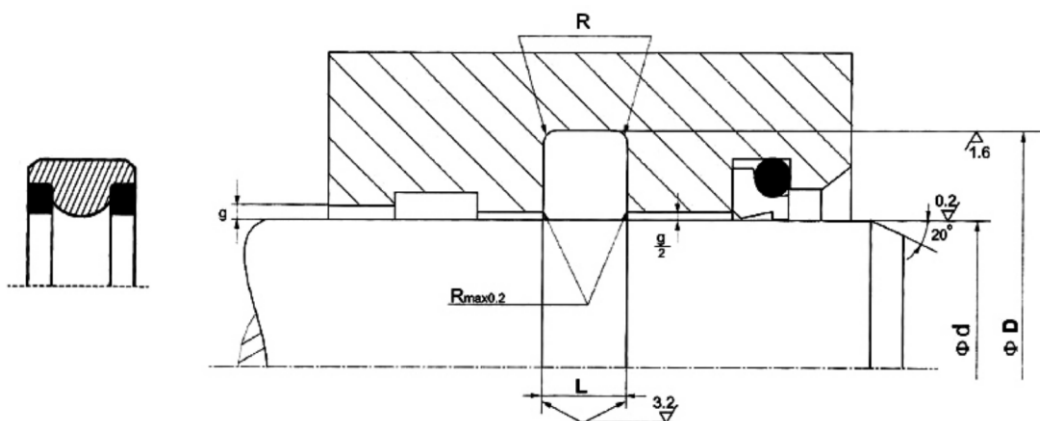
Nominal dimensions of seal			Housing dimension			
d	D	H	Φd	ΦD	L	C
18	27	4.3	18	27	4.5	3.5
20	29		20	29		
22	31		22	31		
27	36		27	36		
31.5	40.5		31.5	40.5		
47	60	7.3	47	60	7.5	4
53	66		53	66		
60	73		60	73		
65	78		65	78		
70	83		70	83		
75	88		75	88		
80	93		80	93		
90	103.4		90	103.4		
100	113.4		100	113.4		
105	118.4		105	118.4		
110	123.4		110	123.4		
120	133.4		120	133.4		
130	143.4		130	143.4		
140	153.4		140	153.4		6.5

The above sizes are commonly used specifications, and other specifications are available for order.



Rod Seal

FOLON-A



Imperial system

d	D	L	d	D	L
0.188	0.375	0.15	2.875	3.25	0.28
0.25	0.438	0.15	3	3.375	0.28
0.313	0.5	0.15	3.125	3.5	0.28
0.375	0.625	0.185	3.25	3.625	0.28
0.438	0.688	0.185	3.375	3.75	0.28
0.5	0.75	0.185	3.5	3.875	0.28
0.563	0.813	0.185	3.625	4	0.28
0.625	0.875	0.185	3.75	4.125	0.28
0.688	0.938	0.185	3.875	4.25	0.28
0.75	1	0.185	4	4.375	0.28
0.813	1.063	0.185	4.125	4.5	0.28
0.875	1.125	0.185	4.25	4.625	0.28
0.938	1.188	0.185	4.375	4.75	0.28
1	1.25	0.185	4.5	4.875	0.28
1.063	1.313	0.185	5	5.5	0.366
1.125	1.375	0.185	5.25	5.75	0.366
1.188	1.438	0.185	5.5	6	0.366
1.25	1.5	0.185	5.625	6.125	0.366
1.313	1.563	0.185	6	6.5	0.366
1.375	1.625	0.185	6.25	6.75	0.366
1.438	1.688	0.185	6.5	7	0.366
1.5	1.75	0.185	6.75	7.25	0.366
1.5	1.875	0.28	7	7.5	0.366
1.625	2	0.28	7.25	7.75	0.366
1.75	2.125	0.28	7.5	8	0.366
1.875	2.25	0.28	8	8.5	0.366
2	2.375	0.28	9	9.5	0.366
2.125	2.5	0.28	9.5	10	0.366
2.25	2.625	0.28	10	10.5	0.366
2.375	2.75	0.28	11	11.5	0.366
2.5	2.875	0.28	11.5	12	0.366
2.625	3	0.28	12	12.5	0.366
2.75	3.125	0.28			

The above sizes are commonly used specifications, and other specifications are available for order.

$H=L-(0.6\sim 1)\text{mm}$



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Rod Seal

FOLON-A

d	D	H/L	C
42	57	22.5	4
45	55	17.5	3
45	60	16	3
45	60	22.5	5
45	65	28	5
48	60	25	5
48	62	22.5	5
50	65	22.5	5
50	70	30	5
50	70	16.5	5
51	69	28	5
55	67	25	5
56	71	16.5	5
56	71	22.5	5
56	76	32	5
60	75	19	5
60	75	22.5	5
63	78	25	5
63	78	16.5	5
63	83	32	5
65	80	22.5	5
65	80	16.5	5
70	85	22.5	5
70	85	16.5	5
70	85	25	5
70	90	22.5	5
75	90	16.5	5
75	90	32	5
80	95	22.5	5
80	95	16.5	5
80	95	25	5
80	100	32	5
85	100	22.5	5
90	110	32	5
90	110	40	7.5
90	110	30	5
100	120	40	7.5
100	120	32	5

d	D	H/L	C
100	120	30	5
100	125	40	7.5
110	130	32	5
110	130	40	7.5
110	130	30	7.5
110	135	40	7.5
115	140	34	7.5
115	140	46	7.5
125	145	32	5
125	150	40	7.5
125	150	46	7.5
125	150	34	7.5
140	160	32	5
140	165	40	7.5
140	165	34	5
140	165	46	7.5
150	180	60	7.5
150	180	45	7.5
160	180	40	7.5
160	190	60	7.5
160	190	45	7.5
160	190	50	7.5
180	205	40	7.5
180	210	45	7.5
180	210	50	7.5
180	210	60	7.5
200	225	40	7.5
200	230	60	7.5
200	230	50	7.5
200	230	45	7.5
220	250	60	7.5
220	250	50.5	7.5
220	255	60	7.5
225	255	50	7.5
240	270	60	7.5
240	270	50	7.5
250	280	50	7.5
250	280	60	7.5

Rod Seal



d	D	H/L	C	d	D	H/L	C
260	290	50	7.5	410	440	60	7.5
260	290	60	7.5	410	440	52.5	7.5
280	310	60	7.5	410	445	60	10
280	310	50	7.5	410	450	80	10
280	320	80	10	410	450	70	10
300	330	60	7.5	410	450	79	10
300	330	50	7.5	410	450	89	10
300	330	58	7.5	415	455	80	10
300	340	80	10	415	455	60	10
320	350	60	7.5	420	450	60	7.5
320	350	50	7.5	420	450	52.5	7.5
320	360	80	10	420	460	70	10
320	360	63	10	420	460	80	10
340	370	50.5	7.5	420	460	79	10
340	370	60	7.5	420	460	89	10
340	370	58	7.5	420	460	60	10
340	380	80	10	425	465	80	10
360	390	60	7.5	425	465	70	10
360	390	50	7.5	430	460	52.5	7.5
360	390	58	7.5	430	460	60	7.5
360	400	80	10	430	470	60	10
360	400	63	10	430	470	80	10
370	400	60	7.5	440	470	52.5	7.5
370	400	50	7.5	440	470	60	7.5
370	410	80	10	440	480	80	10
380	410	60	7.5	440	480	70	10
380	410	50	7.5	440	480	79	10
380	420	80	10	440	480	89	10
390	420	60	7.5	440	480	60	10
390	420	50	7.5	450	480	52.5	7.5
390	430	80	10	450	480	60	7.5
400	430	60	7.5	450	490	89	10
400	430	50	7.5	450	490	80	10
400	430	52.5	7.5	450	490	70	10
400	440	80	10	450	490	79	10
400	440	89	10	450	490	60	10
400	440	70	10	460	490	52.5	7.5
400	440	79	10	460	490	60	7.5

FOLON-A



Rod Seal

FOLON-A

d	D	H/L	C
460	500	70	10
460	500	80	10
460	500	79	10
460	500	89	10
460	500	60	10
470	500	52.5	7.5
470	500	60	7.5
470	510	70	10
470	510	79	10
470	510	80	10
470	510	89	10
470	510	60	10
470	520	100	12.5
475	505	60	7.5
475	515	80	10
475	515	70	10
475	515	60	10
480	510	52.5	7.5
480	510	60	7.5
480	520	80	10
480	520	70	10
480	520	90	10
480	520	89	10
480	520	60	10
490	520	60	7.5
490	520	52.5	7.5
490	530	80	10
490	530	70	10
490	530	79	10
490	530	89	10
500	530	52.5	7.5
500	540	70	10
500	540	80	10
500	540	79	10
500	540	89	10
500	540	60	10
500	550	100	12.5
510	550	70	10

d	D	H/L	C
510	550	60	10
510	550	80	10
510	560	100	12.5
520	550	60	7.5
520	560	80	10
520	560	70	10
520	560	60	10
520	570	100	12.5
525	565	80	10
530	570	80	10
530	570	70	10
530	570	60	10
530	580	100	12.5
535	575	60	10
540	580	80	10
540	580	70	10
540	580	60	10
540	580	89	10
545	585	80	10
550	590	80	10
550	590	70	10
550	590	60	10
555	595	80	10
555	595	70	10
560	600	80	10
560	600	70	10
560	600	89	10
560	600	60	10
560	610	100	12.5
570	610	80	10
570	610	70	10
580	620	80	10
580	620	70	10
580	620	60	10
580	630	100	12.5
590	630	80	10
590	630	70	10
590	630	80	10

Rod Seal



d	D	H/L	C	d	D	H/L	C
600	630	52.5	7.5	695	735	80	10
600	640	80	10	700	730	60	7.5
600	640	70	10	700	740	70	10
600	640	60	10	700	740	60	10
600	650	100	12.5	700	740	80	10
610	650	80	10	700	740	89	10
610	650	60	10	700	750	100	12.5
610	650	70	10	710	750	80	10
620	650	52.5	7.5	710	750	70	10
620	660	80	10	710	750	60	10
620	660	70	10	710	750	89	10
620	660	60	10	710	760	100	12.5
620	670	100	12.5	720	760	70	10
630	670	60	10	720	760	80	10
630	670	70	10	720	770	100	12.5
630	670	80	10	740	780	70	10
630	680	100	12.5	740	780	80	10
640	680	70	10	740	780	60	10
640	680	80	10	740	790	100	12.5
640	690	100	12.5	750	790	70	10
650	690	70	10	750	790	80	10
650	690	80	10	750	790	60	10
650	700	100	12.5	750	800	100	12.5
660	700	70	10	760	800	80	10
660	700	80	10	760	810	89	12.5
660	710	100	12.5	775	825	70	12.5
660	710	80	12.5	780	820	60	10
670	710	80	10	780	830	100	12.5
670	720	100	12.5	790	840	100	12.5
675	725	100	12.5	800	840	80	10
680	710	60	7.5	800	840	70	10
680	720	70	10	800	840	60	10
680	720	80	10	800	850	100	12.5
680	730	100	12.5	800	850	80	12.5
685	725	80	10	800	850	70	12.5
690	730	80	10	810	850	80	10
690	730	70	10	820	860	70	10
690	730	60	10	820	870	100	12.5

FOLON-A

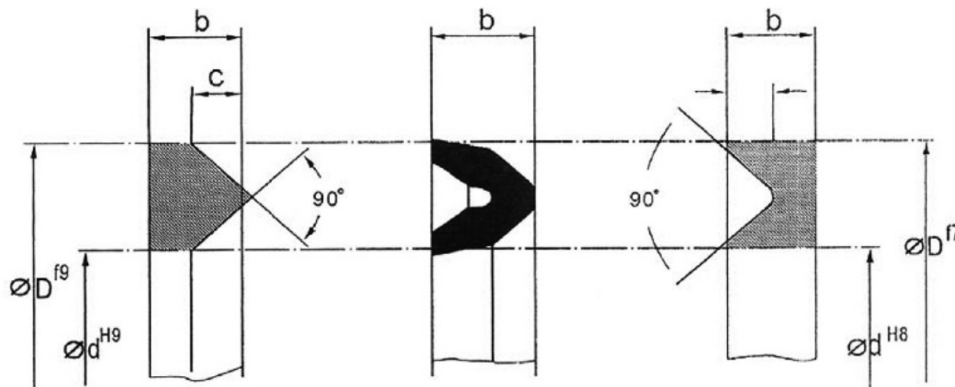


Rod Seal

FOLON-A

d	D	H/L	C	d	D	H/L	C
825	875	100	12.5				
830	880	100	12.5				
840	880	80	10				
840	890	100	12.5				
850	890	70	10				
850	890	80	10				
850	890	60	10				
850	900	100	12.5				
850	900	70	12.5				
860	900	60	10				
860	910	100	12.5				
870	920	100	12.5				
875	925	100	12.5				
880	930	100	12.5				
900	940	80	10				
900	940	70	10				
900	950	100	12.5				
925	975	100	12.5				
930	980	100	12.5				
950	1000	100	12.5				
950	1000	89	12.5				
960	1010	100	12.5				
975	1015	60	10				
980	1020	80	10				
1000	1040	80	10				
1000	1040	70	10				
1000	1040	60	10				
1000	1050	100	12.5				
1020	1070	100	12.5				
1050	1100	100	12.5				
1060	1110	100	12.5				
1070	1120	100	12.5				
1080	1130	100	12.5				
1100	1140	80	10				
1100	1150	100	12.5				
1130	1170	60	10				
1150	1200	70	12.5				
1220	1270	100	12.5				

The above sizes are commonly used specifications, and other specifications are available for order.



1. Feature

The combined seal assembly is made of a PTFE V-ring and consists of the following elements:

- 1 concave adaptor (back-up ring)
- 3-5 angle rings
- 1 convex adaptor (compression ring)

2. Material

Concave adaptor

Material: PTFE or metal

Angle ring

Material: PTFE15/F52902

(PTFE filled with graphite)

Convex adaptor

Material: PTFE or metal;

3. Performance

It is used for mounting mandrels, rods, pistons and low-speed shafts of axial movement. It is characterized by very good chemical resistance and heat resistance, low friction and low starting force even after long-term stop.

4. Operating limit

Pressure: 31.5 MPa

5. Design data

When the operating temperature fluctuates or when sealing a rotating shaft, a spring should be used to apply a preload of 1.5 to 2 N/mm² to the seal. If the spring must be installed on the non-pressure side, the preload should be adapted to the maximum pressure rise.

Mounting

If the convex or concave fittings provided by the user are made of metal, the fit size shall be selected from the size chart. The number of PTFE angle rings is determined by the medium pressure and the usual fitting is as follows:

$P \leq 3 \text{ MPa}$ 3 angle rings

$P > 3 \text{ MPa} \sim 10 \text{ MPa}$ 4 angle rings

$P > 10 \text{ MPa}$ 5 angle rings

6. Size chart

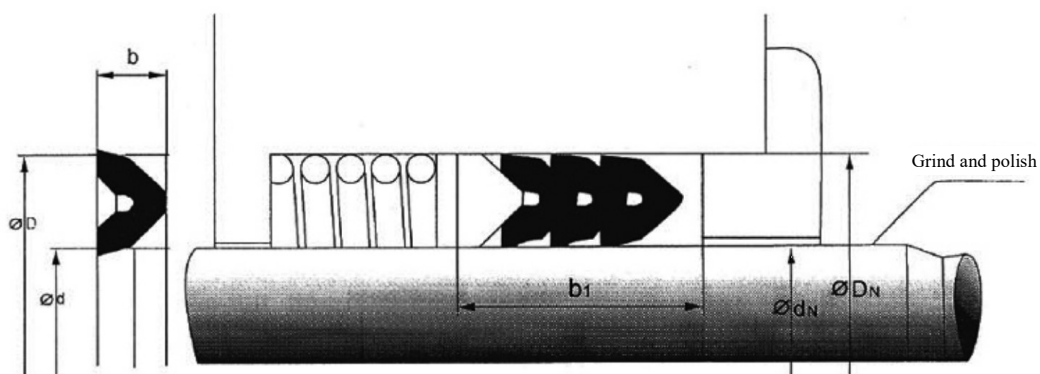
Diameter tolerance	Back-up ring		Angle ring	Compression ring		Seal ring height	
	b	a	b	b	C	b1	h
8	4	1.4	3.8	4	1.7	15.3	2.9
10	4.5	1.8	4.8	4.5	2.1	17.8	3.6
12	5	2.1	5.8	5	2.5	20.3	4.2
15	6	2.6	7	6	3.1	23.5	4.7
20	7.5	3.4	9.3	7.5	4.3	29.6	6
25	9	4.5	11.2	9	5.4	33.7	6.8
30	10.5	5.5	13	10.5	6.3	38.4	7.7

h=Height increase value for each additional angle ring.



Rod Seal

FOLON-A



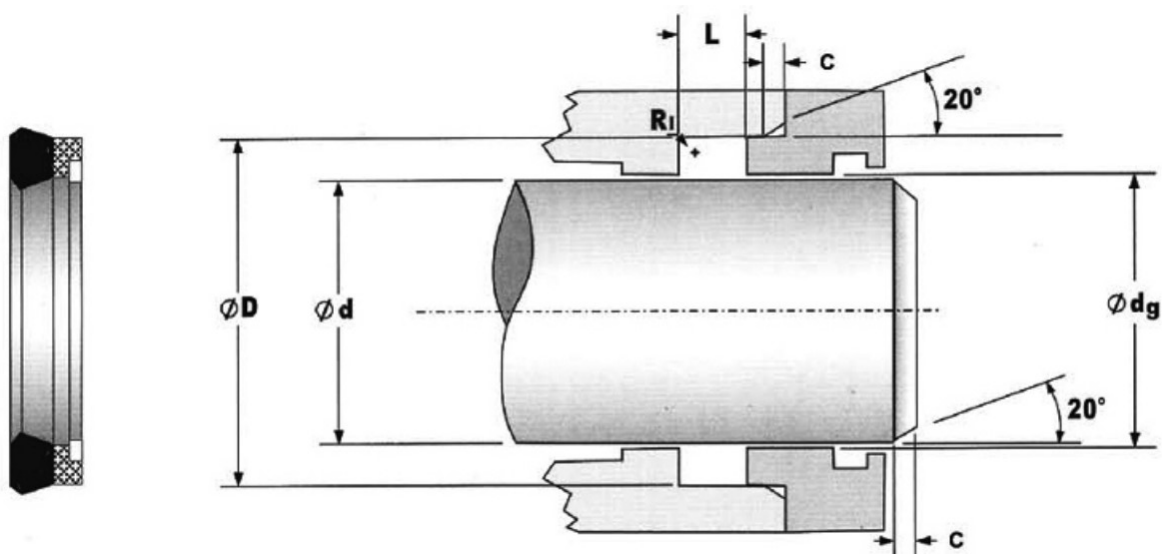
Angle ring	Inside diameter	Outside diameter	Seal ring height		
			3 angle rings	4 angle rings	5 angle rings
d D b	d	D			
5-17-5.8	5	17	20.3	24.5	28.7
6-14-3.8	6	14	15.3	18.2	21.1
6-18-5.8	6	18	20.3	24.5	28.7
8-16-3.8	8	16	15.3	18.2	21.1
8-20-5.8	8	20	20.3	24.5	28.7
10-18-3.8	10	18	15.3	18.2	21.1
10-22-5.8	10	22	20.3	24.5	28.7
12-20-3.8	12	20	15.3	18.2	21.1
12-24-5.8	12	24	20.3	24.5	28.7
13-25-5.8	13	25	20.3	24.5	28.7
15-27-5.8	15	27	20.3	24.5	28.7
16-24-3.8	16	24	15.3	18.2	21.1
16-28-5.8	16	28	20.3	24.5	28.7
20-28-3.8	20	28	15.3	18.2	21.1
20-32-5.8	20	32	20.3	24.5	28.7
22-37-5.8	22	34	20.3	24.5	28.7
23-35-5.8	23	35	20.3	24.5	28.7
25-37-5.8	25	37	20.3	24.5	28.7
26-41-5.8	26	41	23.5	28.2	32.9
30-42-5.8	30	42	20.3	24.5	28.7
30-50-9.3	30	50	29.6	35.6	41.6
34-16-5.8	34	46	20.3	24.5	28.7

Angle ring	Inside diameter	Outside diameter	Seal ring height		
			3 angle rings	4 angle rings	5 angle rings
d D b	d	D			
35-7-5.8	35	47	20.3	24.5	28.7
35-50-7.0	35	50	23.5	28.2	32.9
36-48-5.8	36	48	20.3	24.5	28.7
40-52-5.8	40	52	20.3	24.5	28.7
40-65-11.2	40	65	33.7	40.5	47.3
45-60-7.0	45	60	23.5	28.2	32.9
45-65-9.3	45	65	29.6	35.6	41.6
48-68-9.3	48	68	29.6	35.6	41.6
50-62-5.8	50	62	20.3	24.5	28.7
50-70-9.3	50	70	29.6	35.6	41.6
50-80-1.3	50	80	38.4	46.1	53.8
52-64-5.8	52	64	20.3	24.5	28.7
55-67-5.8	55	67	20.3	24.5	28.7
60-80-9.3	60	80	29.6	35.6	41.6
60-85-11.2	60	85	33.7	40.5	47.3
65-85-9.3	65	85	33.7	40.5	41.6
65-90-11.2	65	90	29.6	35.6	47.3
70-82-5.8	70	82	20.3	24.5	28.7
85-105-9.3	85	105	29.6	35.6	41.6
100-125-11	100	125	33.7	40.5	47.3
115-135-9	115	135	29.6	35.6	41.6
130-155-11	130	155	33.7	40.5	47.3

Rod Seal



FOLON-A



D	D>120	d	D>120	L	dg	R1
Js11	Js10	eg	e8	+0.4(+0.016) -0.6(+0.024)	±0.1 (+0.004)	MAX

Temperature °C	Pressure	Speed
-30	6000psl	1.5ft/sec
+ 100	400bar	0.5m/sec

Surface treatment	
Dynamic	0.4µm Ra
Static	0.8µm Ra

Bevel dimensions	
D	C
0-60	4
60-120	5
120-180	6
180-250	8
250-400	10



Rod Seal

FOLON-A

d	D	L	dg	R1
8	16	6	8.2	0.2
12	23	7	12.2	0.4
15	27	6.5	15.2	0.4
16	24	6.5	16.2	0.2
16	28	7	16.2	0.4
18	25	5.5	18.2	0.2
18	28	5.8	18.2	0.4
18	28	6.5	18.2	0.4
18	30	7	18.2	0.4
20	27	6	20.2	0.2
20	28	5.8	20.2	0.2
20	28	6.4	20.2	0.2
20	30	8	20.2	0.4
20	32	9	20.2	0.4
20	32	9.5	20.2	0.4
22	30	6.5	22.2	0.2
22	34	9	22.2	0.4
22	35	9.5	22.2	0.4
25	33	6	25.2	0.2
25	33	6.4	25.2	0.2
25	35	8	25.2	0.4
25	35	8.5	25.2	0.4
25	37	10	25.2	0.4
25	38	9.5	25.2	0.4
25	38	10	25.2	0.4
28	38	7.5	28.2	0.4
28	38	8	28.2	0.4
28	40	9	28.2	0.4
30	38	6	30.2	0.2
30	40	8.5	30.2	0.4
30	40	10	30.2	0.4
30	40	10.5	30.2	0.4
30	42	10	30.2	0.4
30	45	8.5	30.2	0.8
30	45	9	30.2	0.8
30	45	10.5	30.2	0.8
30	50	14	30.2	0.8

d	D	L	dg	R1
32	40	8.5	32.2	0.2
32	42	8	32.2	0.4
32	44	11	32.2	0.4
32	45	9.5	32.2	0.4
32	46	10	32.2	0.4
35	43	6	35.2	0.2
35	45	6.5	35.2	0.4
35	45	7.5	35.2	0.4
35	45	9.5	35.2	0.4
35	45	10	35.2	0.4
35	45	10.5	35.2	0.4
35	50	10.5	35.2	0.8
35	50	11.5	35.2	0.8
36	43	6	36.2	0.2
36	46	8	36.2	0.4
36	48	9	36.2	0.4
38	45	6	38.2	0.2
38	55	10.5	38.2	0.8
40	48	6	40.2	0.2
40	48	8	40.2	0.2
40	50	7.5	40.2	0.4
40	50	9.5	40.2	0.4
40	50	10	40.2	0.4
40	50	10.5	40.2	0.4
40	52	9	40.2	0.4
40	52	10.5	40.2	0.4
40	55	7	40.2	0.8
40	55	7.5	40.2	0.8
40	55	10.5	40.2	0.8
40	60	10	40.2	0.8
40	60	10.5	40.2	0.8
40	60	14	40.2	0.8
45	53	8	45.2	0.2
45	53	10.5	45.2	0.2
45	55	7.5	45.2	0.4
45	55	10.5	45.2	0.4
45	60	10	45.2	0.8

Rod Seal



d	D	L	dg	R1
45	60	10.5	45.2	0.8
45	63	10.5	45.2	0.8
45	65	14	45.2	0.4
48	60	10.5	48.2	0.4
50	60	7.5	50.2	0.4
50	60	9.5	50.2	0.4
50	60	10	50.2	0.4
50	62	9	50.2	0.4
50	62	9.5	50.2	0.4
50	65	10.5	50.2	0.8
50	70	14	50.2	0.8
55	65	7.5	55.2	0.4
55	65	10.5	55.2	0.4
55	65	13	55.2	0.4
55	70	10	55.2	0.8
55	75	14	55.2	0.8
56	66	10.5	56.2	0.4
56	71	10	56.2	0.8
56	71	12	56.2	0.8
56	76	14	56.2	0.8
60	70	8	60.2	0.4
60	70	9.5	60.2	0.4
60	70	10.5	60.2	0.4
60	70	12.5	60.2	0.4
60	72	9.5	60.2	0.4
60	75	12.5	60.2	0.8
60	80	14	60.2	0.8
63	75	10.5	63.2	0.4
63	78	10	63.2	0.8
63	83	14	63.2	0.8
65	75	13	65.2	0.4
65	80	11	65.2	0.8
65	80	12	65.2	0.8
65	85	14	65.2	0.8
70	80	12.5	70.2	0.4
70	84	12	70.2	0.4
70	85	11.5	70.2	0.8

d	D	L	dg	R1
70	85	12	70.2	0.8
70	90	14	70.2	0.8
75	85	12	75.2	0.4
75	90	11	75.2	0.8
75	95	14	75.2	0.8
78	90	12	78.2	0.4
80	90	12.5	80.2	0.4
80	95	10	80.2	0.8
80	95	11.5	80.2	0.8
80	95	12.5	80.2	0.8
80	96	10	80.2	0.8
80	100	11.5	80.2	0.8
80	100	12	80.2	0.8
80	100	14	80.2	0.8
85	100	11.5	85.2	0.8
85	100	12	85.2	0.8
85	105	14.3	85.2	0.8
90	100	10	90.2	0.4
90	100	10.5	90.2	0.4
90	105	12	90.2	0.8
90	110	12	90.2	0.8
90	110	14	90.2	0.8
95	105	10.5	95.2	0.4
95	115	14	95.2	0.8
100	113	13	100.2	0.4
100	115	12	100.2	0.8
100	120	11.5	100.2	0.8
100	120	14	100.2	0.8
105	115	10.5	105.2	0.4
105	120	13	105.2	0.8
105	120	15	105.2	0.8
105	125	12	105.2	0.8
110	120	10.5	110.2	0.4
110	125	11.5	110.2	0.8
110	130	10	110.2	0.8
110	130	12	110.2	0.8
110	130	15	110.2	0.8

FOLON-A



Rod Seal

FOLON-A

d	D	L	dg	R1
110	135	15	110.2	0.8
115	130	10	115.2	0.8
115	135	14	115.2	0.8
115	135	15	115.2	0.8
115	135	15.5	115.2	0.8
120	130	10.5	120.2	0.4
120	130	12	120.2	0.4
120	140	12	120.2	0.8
120	140	15.5	120.2	0.8
121.2	150	24	121.4	0.8
125	140	12	125.2	0.8
125	150	14	125.2	0.8
125	150	15	125.2	0.8
130	145	9	130.2	0.8
130	145	12.5	130.2	0.8
130	150	15.5	130.2	0.8
135	150	9	135.2	0.8
140	150	10.5	140.2	0.4
140	150	12	140.2	0.4
140	160	12	140.2	0.8
140	160	14	140.2	0.8
140	165	15	140.2	0.8
150	165	12.5	150.2	0.8
150	170	14	150.2	0.8
160	175	16	160.2	0.8
160	180	14	160.2	0.8
160	185	15	160.2	0.8
170	182.7	9.5	170.2	0.4
180	200	14	180.2	0.8
190	210	14.5	190.2	0.8
200	220	14	200.2	0.8
210	230	14	210.2	0.8
220	245	15	220.2	0.8

The above sizes are commonly used specifications, and other specifications are available for order.

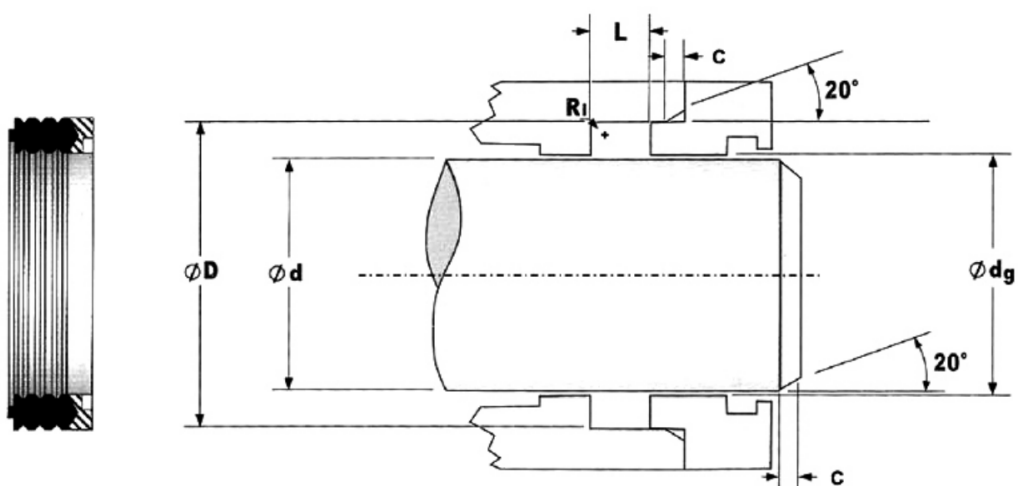
Imperial size

d	D	L	dg	R1
0.375	0.625	0.250	0.383	0.010
1.000	1.250	0.187	1.008	0.015
1.000	1.375	0.250	1.008	0.010
1.000	1.500	0.375	1.008	0.010
1.125	1.562	0.343	1.133	0.010
1.125	1.625	0.375	1.133	0.015
1.250	1.625	0.281	1.258	0.015
1.250	1.625	0.250	1.258	0.015
1.250	1.750	0.375	1.258	0.015
1.250	1.875	0.437	1.258	0.015
1.375	1.750	0.280	1.483	0.010
1.375	2.000	0.437	1.383	0.015
1.500	1.875	0.250	1.508	0.010
1.500	1.875	0.281	1.508	0.010
1.500	2.000	0.375	1.508	0.015
1.500	2.000	0.468	1.508	0.015
1.500	2.125	0.437	1.508	0.015
1.500	2.187	0.437	1.508	0.015
1.750	2.125	0.300	1.758	0.010
1.750	2.125	0.281	1.758	0.010
1.750	2.250	0.375	1.758	0.015
1.750	2.375	0.437	1.758	0.015
1.980	2.375	0.360	1.988	0.010
1.980	2.500	0.360	1.988	0.015
2.000	2.500	0.375	2.008	0.015
2.000	2.625	0.437	2.008	0.015
2.000	2.750	0.625	2.008	0.032
2.250	2.625	0.375	2.258	0.010
2.250	2.750	0.375	2.258	0.015
2.500	3.000	0.312	2.508	0.015
2.500	3.250	0.562	2.508	0.032
2.735	3.250	0.340	2.743	0.010
3.000	3.750	0.562	3.008	0.032
3.250	4.000	0.500	3.258	0.032
4.500	5.500	0.750	4.508	0.046

Rod Seal



FOLON-A



D	D>120 (5.000)	d	D>120 (5.000)	dg	L
Js11	Js10	e9	e8	+0 -0.20 $\left(\begin{smallmatrix} +0 \\ -0.005 \end{smallmatrix}\right)$ imperial	+0.25 -0 $\left(\begin{smallmatrix} +0.010 \\ -0 \end{smallmatrix}\right)$ imperial

Temperature °C	Pressure	Speed
-30 + 100	10000psl 700bar	1.5ft/sec 0.5m/sec

Surface treatment	
Dynamic	0.32μm Ra
Static	0.8μm Ra

Bevel dimensions	
D	C
0-60	4
60-120	5
120-180	6
180-250	8
250-400	10



Rod Seal

FOLON-A

d	D	L	dg	R1
20	33	20	20.40	0.4
25	38	20	25.40	0.4
30	43	20	30.40	0.4
32	47	22.5	32.40	0.8
35	45	25.5	35.40	0.4
40	50	17.3	40.40	0.4
40	55	22.5	40.40	0.8
45	60	22.5	45.40	0.8
45	80	45	45.40	0.8
50	63	20	50.40	0.4
50	65	22.5	50.40	0.8
50	65	24.5	50.40	0.8
50	70	30	50.40	0.8
55	70	25	55.40	0.8
60	75	22.5	60.40	0.4
60	80	30	60.40	0.8
63	83	27	63.40	0.8
63	83	30	63.40	0.8
70	83	25	70.40	0.4
70	85	22.5	70.40	0.8
70	90	30	70.40	0.8
80	100	30	80.40	0.8
90	105	25	90.40	0.8
90	110	30	90.40	0.8
100	120	30	100.40	0.8
105	125	30	105.40	0.8
115	130	30	115.40	0.4
120	140	30	120.40	0.8
125	145	30	125.40	0.8
130	150	30	130.40	0.8
140	160	28	140.40	0.8
140	160	30	140.40	0.8
160	180	28	160.70	0.8
180	205	35	180.70	0.8
200	225	35	200.70	0.8
220	245	35	220.70	0.8
250	275	35	250.70	0.8

Imperial size

d	D	L	dg	R1
1.000	1.500	0.750	1.016	0.015
1.375	1.875	0.792	1.391	0.015
1.500	2.125	0.980	1.516	0.015
1.750	2.375	1.000	1.766	0.015
2.000	2.625	1.000	2.016	0.015
2.500	3.000	0.850	2.516	0.015
2.500	3.000	0.825	2.516	0.015
2.500	3.250	1.230	2.516	0.032
2.750	3.500	1.307	2.766	0.032
3.000	3.750	1.312	3.016	0.032
3.000	3.750	1.000	3.016	0.032
4.000	4.750	0.800	4.016	0.032
4.000	5.000	1.125	4.016	0.032
4.500	5.500	1.125	4.516	0.032

The above sizes are commonly used specifications, and other specifications are available for order.

Rod Seal

For working hydraulic cylinders, seals are required to maintain good sealing performance during their life cycle, for which there are different requirements for seals according to different use conditions:

By use requirements: single-acting seals, such as K1, K2, K3, K4, K8 and K10;

Double-acting seals, such as K5, K6, K7, K9 and K11.

By material: Rubber seal, PU seal, and PTFE seal.

I. Single-acting piston seal

Single-acting piston seals are used only for cylinders where the pressure comes from a single direction. A minimum lubricant film must be kept for the relative movement between the seal and the cylinder; otherwise, the transmission of oil will lead to leakage, which will produce interruption of work and the occurrence of accidents.

Since the other side of the single-acting seal is the atmosphere, the piston sucks in and pushes out air in the process of movement. For this reason, it will be directly affected by moisture and pollutants in the environment, so a dust seal must be mounted in front of the seal to block the contaminant particles and protect the seal.

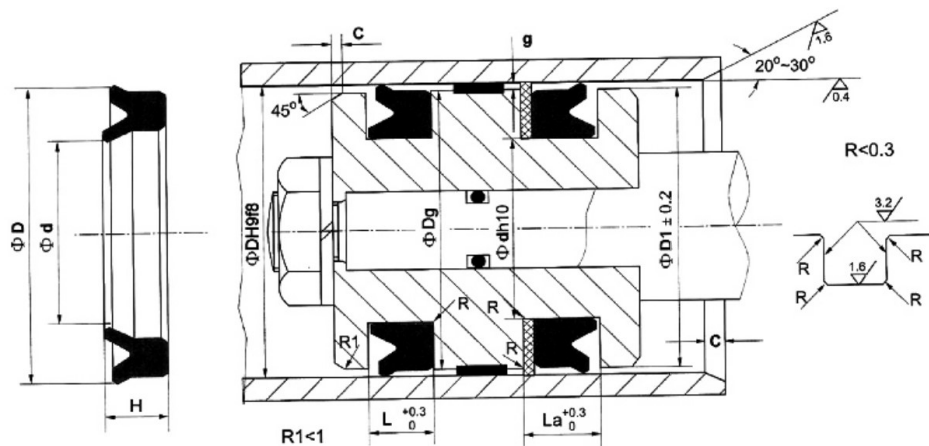
II. Double-acting piston seal

Double-acting piston seals can withstand pressure on both sides. In general, a lubricating oil film is kept between the seal surface and inside surface to reduce the friction and improve the service life of the seal. The pressure, duration and change in pressure direction affect the function of the seal. Other conditions such as temperature, speed, seal material, gap between piston and cylinder, bore size accuracy and cylinder expansion under pressure also affect the effectiveness of the seal.

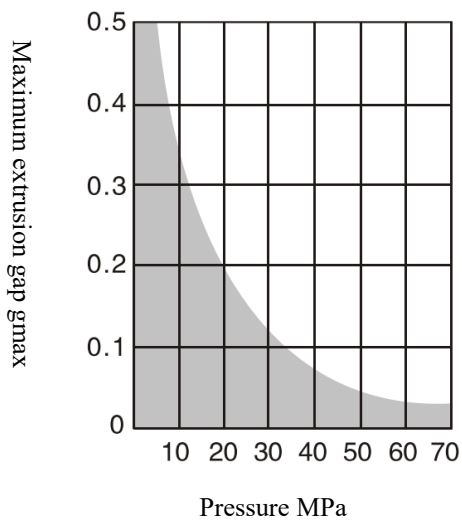


Rod Seal

FOLON A



Extrusion gap g



Add a back-up ring if the extrusion gap is greater than the curve value

Chamfer c

D<16	C=2.5
D=16~30	C=3
D=30~60	C=4
D=60~120	C=5
D=120~250	C=6.5
D=250~400	C=8

Dimension B

P(MPa)	Dg	P(MPa)	Dg
<5	D-0.7	20~30	D-0.2
5~10	D-0.5	30~40	D-0.1
10~20	D-0.2		

Groove width L, La

H<6	L=H+0.7
HS=6	L=H+1.0
La=L+back-up ring thickness	

Technical data

Material: PU M95, PU A95

Working pressure: 40 MPa

Temperature: -35°C~110°C

Speed: 0.05~0.5 m/s

Dimension D1

D<180	D1=D-1
D≥180	D1=D-2

Rod Seal



FOLON-A

D	d	H	L
11	6	7	8
12	5	5.5	6
12	6	4	5
14	6	8	9
14	8	4.5	5.5
14	8	6.3	6.8
15	5	8	9
15	9	8	9
16	6	8	9
16	6	10	11
16	8	5.7	6.3
16	10	4	5
16	10	6	6.5
16	10	6.5	7.5
16	10	8	9
18	8	7.5	8.5
18	10	6	7
19.2	11.2	5	6
20	10	6	7
20	10	7.5	8.5
20	10	8	9
20	12	5	6
20	12	5.5	6.3
20	12	6.5	7.5
20	12	7	8
20	12	7.5	8.5
20	14	5.5	6
22	12	8	9
22	14	5	6
23.5	15	8	9
24	16	5.7	6.
25	10	10	3
25	13	7	11
25	15	7.3	8

D	d	H	L
25	15	8	9
25	17	5.5	6.3
25	17	9	10
25	17	10	11
25	18	5	5.6
26	16	7.5	8.5
26	18	5	6
26	18	7	8
26	20	6	7
28	15	10	11
28	20	5	6
30	15	10	11
30	17	10	11
30	20	5	6
30	20	6	7
30	20	7	8
30	20	8	9
30	22	6.5	7
30	22	10	11
32	17	10	11
32	22	7.3	8
32	22	8	9
32	22	10	11
32	24	5.5	6.3
32	24	5.7	6.7
32	25	5	5.6
32	26	5	6
34	19	8	9
34	22	8.4	9.4
34	22	9	10
35	18	12	13
35	20	10	11
35	22	10	11
35	25	6	7

D	d	H	L
35	25	6.5	7.5
35	25	7	8
35	25	7.3	8.3
35	25	8	9
35	27	5	6
35	27	10	11
35.4	22.4	10	11
35.5	22.5	8	9
35.5	22.5	10	11
35.5	22.5	6	7
35.5	22.5	8	9
35.5	27.5	5	6
36	28	7	8
36.5	24	6.2	7
37	21	12	13
38	22	10	11
38	25	10	11
38	30	6.5	7.5
38	31	4.7	5.2
40	20	12	13
40	25	9	10
40	25	10	11
40	27	8	9
40	27	10	11
40	28	10	11
40	30	6	7
40	30	6.5	7.5
40	30	7	8
40	30	8	9
40	30	10	11
40	32	5.7	6.3
40	32	8	9
40	33	8	9
42	22	10	11



Rod Seal

FOLON-A

D	d	H	L
42	30	10	11
42	32	10	11
42	34.5	4.2	4.7
43	25	9	10
43	30	10	11
43	33	7.3	8
43	35	9	10
44	20	11	12
44	36	7	8
45	25	12	13
45	28.5	12	13
45	30	6	7
45	30	9	10
45	30	10	11
45	32	8	9
45	32	10	11
45	33	9	10
45	35	6	7
45	35	8	9
45	38	6	7
48	28	12	13
48	35	10	11
48	38	8	9
50	30	12	13
50	32	10	11
50	34	10	11
50	34	12	13
50	35	8.5	9.5
50	35	10	11
50	35	12	13
50	40	5	5.5
50	40	6	7
50	40	6.5	7.5
50	40	7	8

D	d	H	L
50	40	8	9
50	40	9	10
50	40	10	11
50	42	5.5	6
50	42	8	9
50	42	10	11
50.8	40.8	7	8
52	42	10	10.6
54	44	7.3	8
55	35	12	13
55	40	10	11
55	45	6	7
55	45	7	8
55	45	8	9
55	45	10	11
55	47	5.7	6.3
56	40	10	11
56	40	12	13
56	41	9	10
56	41	10	11
56	45	7	8
56	46	6	7
57	41	11.4	12.5
60	40	12	13
60	40	13.5	14.5
60	45	9	10
60	45	10	11
60	50	5	5.5
60	50	6	7
60	50	7	8
60	50	8	9
60	50	10	11
60	52	8	9
61	45	12	13

D	d	H	L
63	43	12	13
63	45	10	11
63	45	12	13
63	47	12	13
63	48	9	9.5
63	48	10	11
63	48	11.4	12.5
63	48	12	13
63	50	14	15
63	53	6	7
63	53	6.5	7.5
63	53	7	8
63	53	12	13
63	55	5.7	6.3
65	45	12	13
65	45	13.5	14.5
65	50	9	10
65	50	10	11
65	50	11.5	12.5
65	55	7.3	8
65	55	8	9
65	55	10	11
65	55	13.5	14.5
66	50	12	13
67	57	7.3	8
68	48	10	11
68	52	8	9
68	58	9.5	10.5
68	60	8	9
70	50	9	10
70	50	12	13
70	50	13.5	14.5
70	50	15	16
70	55	9	10

Rod Seal



FOLON-A

D	d	H	L
70	55	9.5	10.5
70	55	10	11
70	55	12	13
70	58	8.5	9.5
70	60	6	7
70	60	7	8
70	60	8	9
70	60	12	13
70	60	13.5	14.5
70	62	7.5	8.5
71	51	12	13
71	55	10	11
71	55	12	13
71	56	9	10
71	56	10	11
71	60	7	8
71	61	6	7
71	61	8	9
72	58	12	13
73	63	6	7
75	50	14	15
75	55	12	13
75	55	13.5	14.5
75	60	9	10
75	60	10	11
75	60	12	13
75	60	13	14
75	63	8.7	9.5
75	65	5	5.5
75	65	6	7
75	65	6.7	7.5
75	65	7	8
75	65	8	9
75	65	10	11

D	d	H	L
75	65	13.5	14.5
76	60	12	13
77	67	6	7
80	60	12	13
80	60	13.5	14.5
80	60	14.5	16
80	64	12	13
80	65	8.6	9.5
80	65	10	11
80	65	11.4	12.5
80	65	12	13
80	68	8.5	9.5
80	70	6	7
80	70	6.7	7.5
80	70	7	8
80	70	8	9
80	70	12	13
80	71	6	7
80	71	6.5	7.5
80	72	12	13
82	65	12	13
85	65	12	13
85	65	13.5	14.5
85	70	9	10
85	70	10	11
85	70	12	13
85	75	6	7
85	75	8	9
85	75	10	11
85	75	12	13
88	75	9.5	10.5
90	65	12	13
90	70	12	13
90	70	13.5	14.5

D	d	H	L
90	70	15	16
90	75	9	10
90	75	11.4	12.5
90	75	12	13
90	80	5	5.5
90	80	6	7
90	80	8	9
90	80	9.5	10.5
90	80	10	11
90	80	13	14
90	80	13.5	14.5
95	75	12	13
95	75	13.5	14.5
95	75	15	16
95	80	9	10
95	80	10	11
95	80	12	13
95	85	6.7	7.5
95	85	7	8
95	85	8.5	9.5
95	85	13.5	14.5
100	80	10	11
100	80	12	13
100	80	13.5	14.5
100	80	15	16
100	85	9	10
100	85	9.5	10.5
100	85	11.4	12.5
100	85	12	13
100	86	12	13
100	88	7	11
100	90	10	8
100	90	8.5	9.5
100	90	10.5	11.5



Rod Seal

FOLON-A

D	d	H	L
101.6	80	12	13
105	85	15	16
105	90	9	10
105	90	12	13
105	95	12	13
110	85	15	16
110	90	12	13
110	90	15	16
110	95	9	10
110	95	10	11
110	95	12	13
110	100	7	8
110	100	13.5	14.5
112	92	12	13
112	92	15	16
112	97	9	10
112	97	10	11
112	98	8.5	9.5
115	90	15	16
115	95	15	16
115	100	6	7
115	100	9	10
115	100	10.5	11.5
115	105	13.5	14.5
120	95	12	13
120	95	15	16
120	100	12	13
120	100	13.5	14.5
120	100	15	16
120	103	16	17
120	105	9	10
120	105	10	11
120	105	12	13
120	106	8.5	9.5

D	d	H	L
120	110	6	7
124	103	16.5	17.5
125	95	18	19
125	100	15	16
125	105	12	13
125	105	15	16
125	105	16	17
125	110	9	10
125	110	9.6	10.6
125	110	10	11
125	112	9	10
125	115	7	8
125	115	15	16
130	110	12	13
130	110	15	16
130	110	16	17
130	115	9	10
130	115	10	11
130	120	13.5	14.5
132	112	15	16
137	87	25	26
140	114	12	13
140	115	15	16
140	120	12	13
140	120	15	16
140	120	16	17
140	125	9	10
140	125	10	11
140	125	15	16
142	130	12	13
145	115	18	18.6
145	130	10	11
150	120	18	19
150	125	13.5	14.5

D	d	H	L
150	125	19	20
150	125	20	21
150	130	12	13
150	130	15	16
150	130	16	17
150	135	9	10
150	135	10	11
150	136	8.5	9.5
150	140	7	8
155	140	9	10
155	143	12	13
157	132	20	21
160	130	18	19
160	135	18.5	20
160	135	19	20
160	135	20	21
160	140	12	13
160	140	13.5	14.5
160	140	14	15
160	140	15	16
160	140	16	17
160	145	9	10
160	145	10	11
160	145	14	15
160	148	7.1	7.5
160	148	15.5	16.5
165	140	19	20
165	140	20	21
170	145	19	20
170	145	20	21
170	150	12	13
170	150	15	16
170	150	16	17
170	155	9	10

Rod Seal



FOLON-A

D	d	H	L
170	155	10	11
175	155	14	15
175	160	9	10
180	150	18	19
180	155	16	17
180	155	19	20
180	155	20	21
180	160	12	13
180	160	13.5	14.5
180	160	15	16
180	165	9	10
180	165	10	11
180	166	15.5	16.5
185	160	19	20
185	160	20	21
190	165	16	17
190	165	20	21
190	170	12	13
190	170	15	16
190	170	16	17
190	175	9	10
200	170	18	19
200	170	22.7	25
200	175	16	17
200	175	19	20
200	175	20	21
200	180	12	13
200	180	15	16
200	185	9.6	10.6
205	180	19	20
205	180	20	21
210	185	16	17
210	185	20	21
210	190	12	13

D	d	H	L
210	190	16	17
220	190	18	19
220	195	16	17
220	195	20	21
220	200	12	13
220	200	15	16
220	200	16	17
224	199	16	17
224	199	20	21
224	204	12	13
224	204	16	17
225	200	16	17
225	200	19	20
225	200	20	21
225	205	12	13
225	205	16	17
225	213	15	16
230	205	16	17
230	205	19	20
230	205	20	21
230	210	12	13
230	210	16	17
240	215	16	17
240	215	19	20
240	215	20	21
240	220	12	13
240	220	16	17
250	220	18	19
250	225	16	17
225	225	19	20
250	225	20	21
250	230	12	13
250	230	12.5	13.5
250	230	15	16

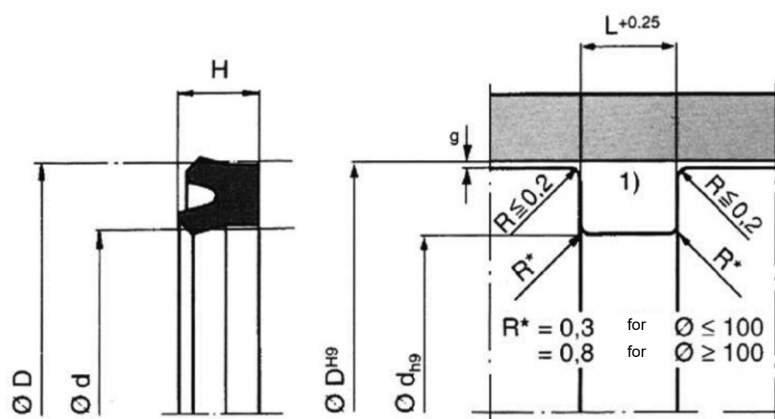
D	d	H	L
250	230	16	17
250	238	14	15
280	250	18	19
300	270	19	20
300	288	14	15
310	280	22	23
320	280	28	29
320	285	20	21
320	290	19	20
320	290	20	21
320	295	18	19
330	300	19	20
360	320	28	29
360	330	15	16
360	330	20	21
400	360	28	29
400	370	20	21
400	370	22	23

The above sizes are commonly used specifications, and other specifications are available for order.



Rod Seal

FOLON.A



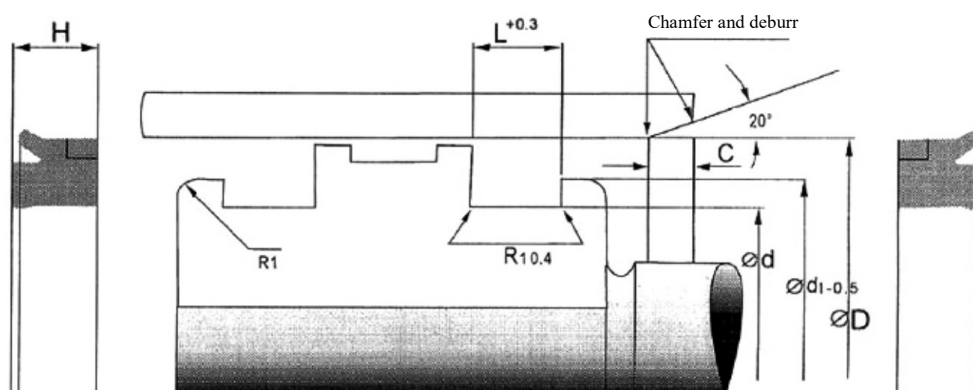
PU

D	d	H	L
15	10	4.2	4.7
16	8	5.7	6.3
16	10	5.7	6.3
20	12	5.7	6.3
24	16	5.7	6.3
25	17	5.7	6.3
25	18	5.7	6.3
32	22	7.3	8
32	24	5.7	6.3
35	25	7.3	8
40	30	7.3	8
40	32	5.7	6.3
50	40	7.3	8
50	42	5.7	6.3
60	50	7.3	8
63	53	7.3	8
63	55	5.7	6.3
65	55	7.3	8
70	60	12	13
75	63	8.7	9.5
80	65	8.7	9.5
80	65	11.4	12.5
80	70	6.7	7.5
90	75	11.4	12.5

D	d	H	L
100	80	14.5	16
100	85	11.4	12.5
100	90	6.7	7.5
110	90	15	16.5
115	98	14.5	16
125	100	18.2	20
125	105	14.5	16
125	110	9.6	10.6
145	115	18.2	20
152.4	136.5	10	11
160	135	18.2	20
160	140	14.5	16
180	150	18	20
200	175	18.2	20
200	185	9.6	10.6
220	200	15	16.5
250	225	18.2	20
250	230	15	16.5
320	290	20	22

The above sizes are commonly used specifications, and other specifications are available for order.

Rod Seal



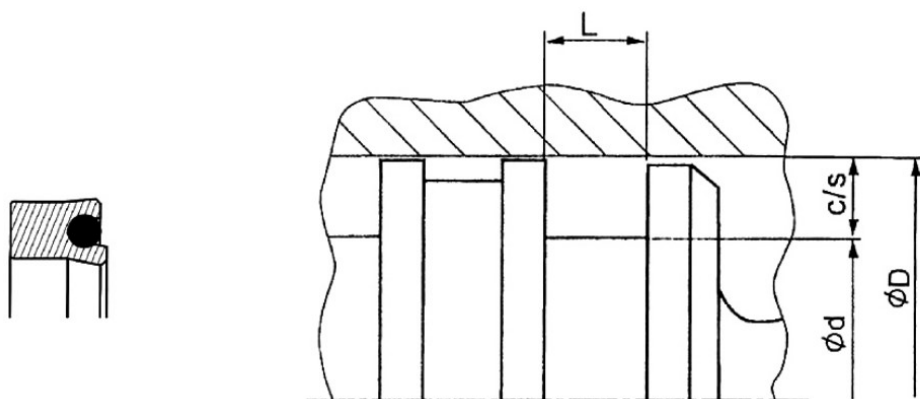
FOLON-A

D	d	H	L	D	d	H	L
40	25	9.0	9.5	125	100	15.0	15.5
40	25	9.3	10	125	100	15.2	16
45	30	9.0	9.5	125	100	15.2	16.2
45	30	9.3	10	125	105	12.0	12.5
50	35	9.0	9.5	130	110	12.0	12.5
50	35	9.3	10	140	115	15.0	15.5
55	40	9.0	9.5	140	115	15.2	16.2
55	40	9.3	10	140	120	12.0	12.5
60	45	9.0	9.5	150	120	18.5	19
60	45	9.3	10	150	120	18.6	19.8
63	48	9.0	9.5	150	130	12.0	12.5
63	48	9.3	10	160	130	18.5	19
65	50	9.0	9.5	160	130	18.6	19.8
65	50	9.3	10	160	140	12.0	12.5
70	50	12.0	12.5	170	150	12.0	12.5
70	50	12.3	13	180	150	18.5	19
70	55	9.0	9.5	180	150	18.6	19.8
75	55	12.0	12.5	180	160	12.0	12.5
80	60	12.0	12.5	200	170	18.5	19
80	60	12.2	13	200	170	18.6	19.8
80	65	9.0	9.5	200	170	18.6	20
85	70	9.0	9.5	200	175	15.5	16
90	70	12.0	12.5	220	200	15.5	16
90	70	12.2	13	225	195	18.5	19
90	75	9.0	9.5	225	195	18.6	19.8
100	80	12.0	12.5	250	220	18.5	19
100	80	12.2	13	250	220	18.6	19.8
100	85	9.0	9.5	250	220	18.6	20
105	85	12.2	13	250	225	15.5	16
110	90	12.0	12.5	280	250	18.5	19
110	90	12.2	13	280	250	18.6	19.8
114	94	12.0	12.5	300	270	18.5	19
115	95	12.0	12.5	300	270	18.6	19.8
115	95	12.2	13	320	290	18.6	20



Rod Seal

FOLON-A



ΦD	Φd	L	C/S
5-24.9	$\Phi D-8$	6	4
25-49.9	$\Phi D-10$	7	5
50-74.9	$\Phi D-12$	8	6
75-149.9	$\Phi D-16$	10	8
150-299.9	$\Phi D-20$	12	10
300-500	$\Phi D-24$	18	12
500-700	$\Phi D-30$	20	15
>750	$\Phi D-40$	26	20

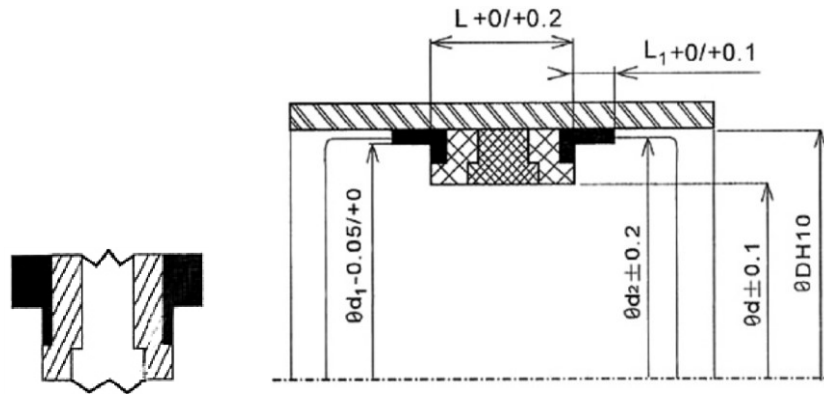
The above sizes are commonly used specifications, and other specifications are available for order.

Rod Seal



FOLON-A

Compact piston seal K5



1) Material

The compact piston seal K5 has five parts:

One rubber central part (usually NBR), which provides optimal sealing (even at low pressures) due to the three contact seal lips; two Hytrel thermoplastic polyester elastomer washers; and two guide rings of modified POM.

2) Applications

Applications: Hydraulic cylinders for construction machinery, crane trucks, conveying equipment, agricultural machinery, etc. Movement: Linear reciprocating movement

Medium: Mineral oil (DIN51524), and non-flammable hydraulic oil (HFA, HFB, HFC)

3) Working conditions

Pressure: Less than 400 bar (subject to temperature and mounting tolerances).

Temperature: -35°C to +110°C Surface speed: Less than 0.5 m/s

Mounting tip: Mounting needs to be carried out in a closed groove. It is recommended to install the rubber part first, then the washer, and finally the guide ring. Also make sure that the closed groove and guide groove are in good condition to avoid damage to the seals.

D	d	L	L1	d1	d2
25	15	12.5	4	22	24
25	15	16.3	6.4	21.4	23.5
25	17	10	4	22	24
32	22	12.5	4	29	31
32	22	16.3	6.4	28.5	30.5
32	24	10.1	4	29	31
35	25	16.3	6.4	31.4	33.5
40	24	18.3	6.4	35.4	38.7
40	30	12.5	4	37	39
40	30	16.3	6.4	35.4	38.7
40	32	10	4	37	39
40	32	15.5	3.2	36	39
45	29	18.3	6.4	40.4	43.7
45	35	16.3	6.4	40.4	43.5
45	31	15.5	2.6	41	44
50	34	18.3	6.4	45.4	48.6
50	35	20	5	46	48.5
50	38	20.5	4.2	46	49.4
50	40	11.3	4	45.4	49
50	40	12.5	4	47	49

D	d	L	L1	d1	d2
50	34	20.5	3.1	46	49
55	39	18.3	6.4	50.4	53.6
55	45	12.5	4	52	54
55	39	20.5	3.1	51	54
60	44	18.3	6.4	55.4	58.6
60	48	20.5	4.2	56	59.4
60	44	20.5	3.1	56	59
63	47	18.3	6.4	58.4	61.6
63	47	20.5	3.1	59	62
63	47	19.3	6.4	58.4	61.5
63	48	20	5	59	61.5
63	53	12.5	4	60	62
63	51	20.5	4.2	59	62.4
65	50	18.3	6.4	60.4	63.6
65	49	20.5	3.1	61	64
70	50	22.3	6.4	64.2	68.3
70	54	20.5	3.1	66	69
70	55	20	5	66	69
70	58	20.5	4.2	66	69.4
75	55	22.3	6.4	69.2	73.3

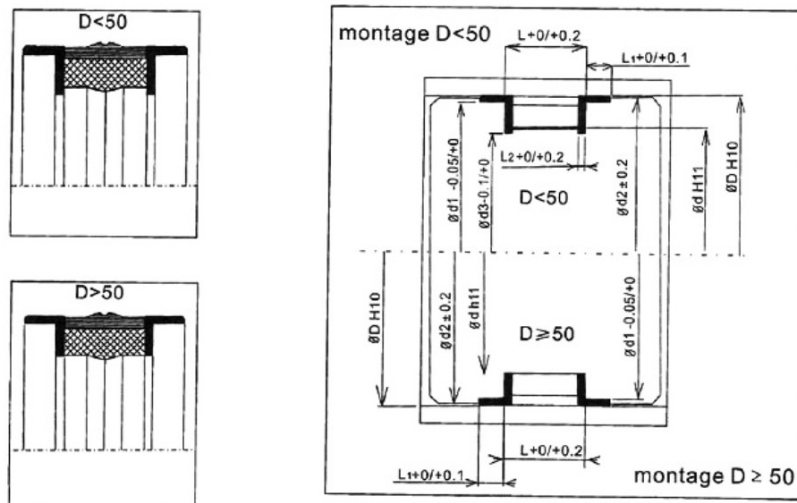


Rod Seal

FOLON-A

D	d	L	L1	d1	d2
80	60	22.3	6.4	74.2	78.3
80	60	25	6.3	75	78
80	62	22.5	3.6	76	78
80	65	20	5	76	78.5
80	66	22.5	5.2	76	79.4
85	65	22.3	6.4	69.2	83.3
90	70	22.3	6.4	84.2	88.3
90	72	22.5	3.6	86	89
90	76	22.5	5.2	86	89.4
95	75	22.3	6.4	89.2	93.3
100	75	22.3	6.4	93.2	98
100	80	25	6.3	95	98
100	85	20	5	96	98.5
100	86	22.5	5.2	96	99.4
100	82	22.5	3.6	96	99
105	80	22.3	6.4	98.1	103
110	85	22.3	6.4	103	108
110	85	25.3	6.4	103	108
110	90	25.3	6.4	104	108.3
110	92	22.5	3.6	106	109
110	95	20	5	106	108.5
110	96	22.5	5.2	106	109.4
115	90	22.3	6.4	108	113
115	97	22.7	3.6	106	109
120	95	22.3	6.4	113	118
120	106	22.5	5.2	116	119.4
125	100	25.3	6.4	118	123
125	100	32	1.0	119	123
125	105	25.3	6.3	120	123.3
125	105	25.3	6.3	119	123
125	108	26.5	7.2	121	124.4
125	103	26.5	5.2	121	124
130	105	25.3	9.5	123	127.5
130	105	25.3	6.4	123	128
135	110	25.3	9.5	128	132.5
135	110	25.3	6.4	128	133
140	115	25.3	9.5	133	137.5
140	115	25.3	6.4	133	138
140	120	25	6.3	135	138
140	123	26.5	7.2	136	139.4

D	d	L	L1	d1	d2
140	118	26.5	5.4	136	139
145	120	25.3	9.5	138	142.5
145	120	25.3	6.4	138	143
150	128	26.5	5.1	146	149
150	125	25.3	9.5	143	147.5
150	125	25.3	6.4	144	148.3
150	125	25.3	6.4	143	148
150	133	26.5	7.2	146	149.4
155	130	25.3	9.5	148	152.5
155	130	25.3	6.4	148	153
160	130	25.3	6.4	153	156
160	135	25.3	9.5	153	157
160	135	32	10	154	158
160	138	26.5	5.1	156	159
160	140	25	6.3	155	158
160	143	26.5	7.2	156	159.4
165	140	25.3	9.5	158	162.5
170	145	25.3	12.7	162	167.1
175	150	25.3	12.7	167	172.1
180	150	35.3	6.4	173	178
180	150	36	12.5	173	177
180	155	25.3	12.7	171	177.1
185	160	25.3	12.7	176	182
190	165	25.3	12.7	162	187
195	170	25.3	12.7	186	192
200	170	35.3	6.4	193	198
200	170	36	12.5	192	197
200	175	25.3	12.7	192	197
210	185	25.3	12.7	202	107
220	190	35.3	6.4	213	118
220	190	36	12.5	212	117
220	195	25.3	12.7	211	217
230	205	25.3	12.7	222	227
240	215	25.3	12.7	232	237
250	220	35.3	6.4	243	248
250	220	36	12.5	242	247
250	225	25.3	12.7	242	247
280	250	35.4	9.5	272	277
280	250	36	12.5	272	277
320	290	36	12.5	312	317



1) Materials

The compact piston seal K6 has three parts:
One rubber central part (usually NBR)
Two guide rings of modified POM

2) Applications

Applications: Hydraulic cylinders for construction machinery, conveying equipment, crane trucks, agricultural machinery, etc.

Movement: Linear reciprocating movement

Medium: Mineral oil (DIN51524), and non-flammable hydraulic oil
(HFA, HFB, HFC)

3) Working conditions

Pressure: Less than 400 bar (subject to temperature and mounting tolerances).

Temperature: -35°C to 110°C

Surface speed: Less than 0.5 m/s

Mounting tip: Mounting needs to be carried out in a closed groove. It is recommended to mount the rubber part first, and then the guide rings. Ensure that the closed groove and guide groove are in good conditions to avoid damage to the seal. For some special applications, the intermediate NBR can also be replaced by PU.

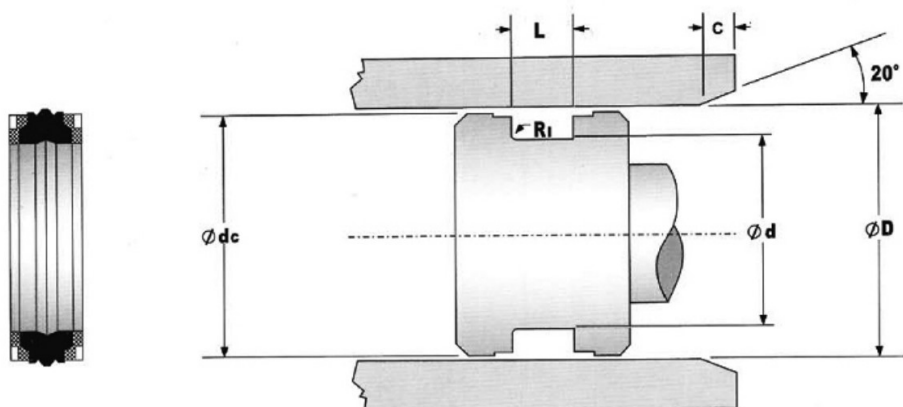
D	d	d3	L	L1	L2
25	17	14	13.5	3.2	2.1
30	22	19	13.5	3.2	2.1
32	24	21	15.5	3.2	3.1
35	27	24	15.5	3.2	3.1
40	32	29	15.5	3.2	3.1
40	32	29	15.5	4.2	3.1
45	37	34	15.5	3.2	3.1
50	38	-	20.5	4.2	-
60	48	-	20.5	4.2	-
63	51	-	20.5	4.2	-
70	58	-	20.5	4.2	-
80	66	-	22.5	5.2	-

D	d	L	L1
90	76	22.5	5.2
100	86	22.5	5.2
110	96	22.5	5.2
120	106	22.5	5.2
125	108	26.5	7.2
140	123	26.5	7.2
150	133	26.5	7.2
160	143	26.5	7.2
180	163	26.5	7.2
200	180	31.5	9.2
220	200	31.5	9.2
250	230	31.5	9.2



Rod Seal

FOLON.A



D	D>120 (5.000)	d	D>120 (5.000)	L	dc	R1
H11	H10	Js11	Js10	+0.4 +0.6	±0.1	MAX

Temperature °C	Pressure	Speed
-30	7350psl	1.5ft/sec
+100	500bar	0.5m/sec

Surface treatment	
Dynamic	0.4µm Ra
Static	0.8µm Ra

Bevel dimensions	
D	C
0-60	4
60-120	5
120-180	6
180-250	8
250-400	10

Rod Seal



FOLON-A

D	d	L	dc	R1
25	15	12.5	24.0	0.4
25	15	16	23.5	0.4
32	22	16	30.5	0.4
32	24	10	31.0	0.4
35	25	16	33.5	0.4
40	24	18	38.5	0.4
40	30	12.5	39.0	0.4
40	30	16	38.5	0.4
40	32	15.5	39.4	0.4
45	29	18	43.7	0.4
45	35	16	43.5	0.4
50	34	18	48.66	0.4
50	34	20	49.0	0.4
50	35	20	48.5	0.4
50	38	20.5	49.4	0.4
55	39	18	53.65	0.4
60	44	18	58.65	0.4
60	48	20.5	59.4	0.4
63	47	18	61.63	0.4
63	47	19	61.63	0.4
63	47	20.5	62.0	0.4
63	48	20	61.5	0.4
63	51	20.5	62.4	0.4
65	50	18	63.64	0.4
70	50	22	68.34	0.4
75	55	22	73.32	0.4
80	60	22	78.34	0.4
80	60	25	78.0	0.4
80	62	22.5	79.0	0.4
80	65	20	79.0	0.4
80	66	22.5	79.4	0.4
85	65	22	83.34	0.4
85	65	22	83.34	0.4
90	70	22	88.31	0.4

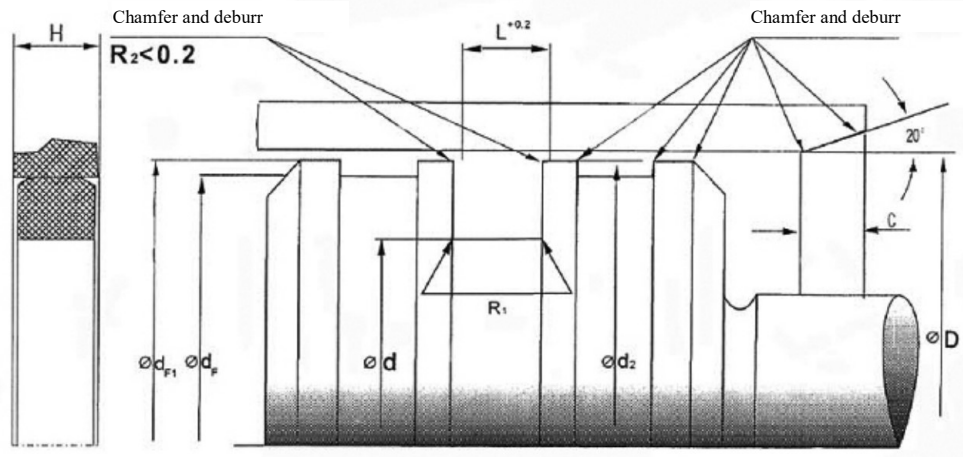
D	d	L	dc	R1
95	75	22	93.31	0.4
100	75	22	98.05	0.4
100	80	25	98.05	0.4
100	82	22.5	99.0	0.4
105	80	22	103.03	0.4
110	85	22	108	0.4
115	90	22	113.02	0.4
120	95	22	118.02	0.4
125	100	25	122.96	0.4
125	105	25	123.0	0.4
130	105	25	127.5	0.4
130	105	25	128	0.4
140	115	25	137.5	0.4
140	115	25	138	0.4
140	115	32	138	0.4
150	125	25	147.5	0.4
150	125	25	148	0.4
160	130	25	157.5	0.4
160	130	25	158	0.4
160	135	25	157.5	0.4
160	135	32	158.0	0.4
165	140	25	162.5	0.4
165	140	25	163	0.4
170	145	25	167.1	0.4
170	145	25	167.6	0.4
175	150	25	172.1	0.4
180	150	36	177.1	0.4
180	155	25	177.1	0.4
200	170	36	198.0	0.4
200	175	25	197	0.4
220	195	25	217.0	0.4
250	220	35	248.0	0.4
260	235	25	258	0.4

The above sizes are commonly used specifications, and other specifications are available for order.



Rod Seal

FOLON-A



1. Feature

K8 is a double combination seal for sealing piston, consisting of a special-shaped PTFE seal and a special-shaped rectangular seal as a preloaded element.

2. Material

Special-shaped PTFE ring

Material: PTFE fiberglass MOS2 composite material

Designation: PTFEMV1201

Or

Material: PTFE bronze composite material

Designation: 602 rectangular rubber ring

Material: NBR

Designation: 80NBRB246

Hardness: 80 Shore A or

Material: FPM

Designation: 70FPMK682

Hardness: 70 Shore A

Other material combinations can be provided upon users' request.

3. Performance

K8 is used for pistons that are pressurized on one side.

- Excellent pressure stability under load
- Anti-twist structure
- Good resistance to extrusion
- High wear resistance
- Good thermal conductivity
- Low friction, no stick-slip phenomenon
- High contact pressure given by the rubber O-ring

4. Operating limit

Pressure: 40 MPa Linear speed: 15 m/s

5. Design basis

Roughness/depth	Surface quality	
	Rmax	Ra
Slide surface	$\leq 25\mu\text{m}$	0.05-0.3 μm
Groove bottom	$\leq 63\mu\text{m}$	$\leq 1.6\mu\text{m}$
Groove side	$\leq 15\mu\text{m}$	$\leq 3\mu\text{m}$

Application examples

- Manipulator of injection molding machine
- Vulcanizing press • Injection molding machines
- Marine hydraulic transmission system • Steelmaking hydraulic equipment

Rod Seal



FOLON-A

Medium/temperature	PTFEB602/80NBRB246 (PTFE bronze/NBR)	PTFEB602/70FPMK682 (PTFE bronze/FPM)	PTFEM201/80NBRB246 (PTFE fiberglass M0S2/NBR)
Hydraulic oil, HL/HLP	-30°C ~+100°C	-10°C ~+200°C	-30°C ~+100°C
HFA/HFB fluid	—	—	-5°C ~ +60°C
HFC fluid	—	—	-30°C ~ +60°C
HFD fluid	—	-10°C ~+200°C	—
Water	—	—	-30°C ~+100°C
HETG (rapeseed oil)	-30°C ~+80°C	-10°C ~+80°C	-30°C ~ +80°C
HEES (synthetic ester)	-30°C ~+80°C	-10°C ~+100°C	-30°C ~+80°C
HEPG (ethylene glycol)	-30°C~+60°C	-10°C ~+80°C	-30°C~+60°C
Mineral grease	-30°C ~+100°C	-10°C ~+200°C	-30°C ~+100°C

Recommended tolerance and dimension d2

When determining d2, the allowable gap size, guide ring gap and guide ring deformation under load should be considered

Recommended tolerance											
16MPa			26MPa			32MPa			40MPa		
Nominal diameter D	D	d	Nominal diameter D	D	d	Nominal diameter D	D	d	Nominal diameter D	D	d
100-1000	H8	h8	100-1000	H8	h8	100-1000	H8	h8	100-1000	H8	h8
>1000	H8	h8	>1000	H7	h8	>1000	H7	h8	>1000	H8	h8

Mounting

Careful mounting is a prerequisite for the ideal function of the seal.

Cross-section support length ratio: $M > 50\%$ and $\leq 90\%$; depth of cut: $C = Rz/2$; and reference line: $C_{ref} = 0\%$

Gap size

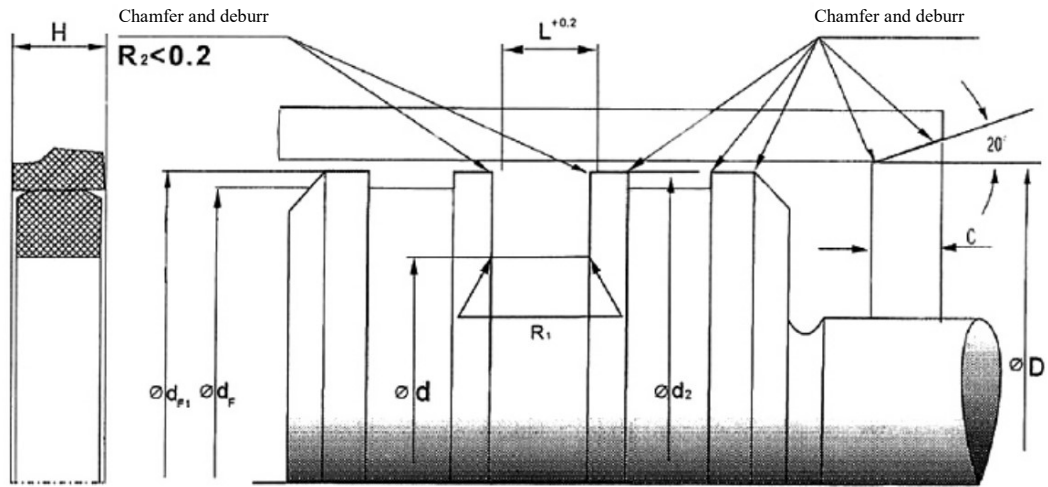
The maximum gap size on the non-pressure side of the seal during operation is decisive for the sealing function.

Cross-section dimensions		Maximum allowable gap size			
L	Cross-section	16MPa	26MPa	32MPa	40MPa
12.5	12.5	0.75	0.65	0.55	0.5
15.0	15.0	0.75	0.65	0.55	0.5
17.5	17.5	0.75	0.65	0.55	0.5
20.0	20.0	0.8	0.7	0.6	0.55



Rod Seal

FOLON-A



Size Chart

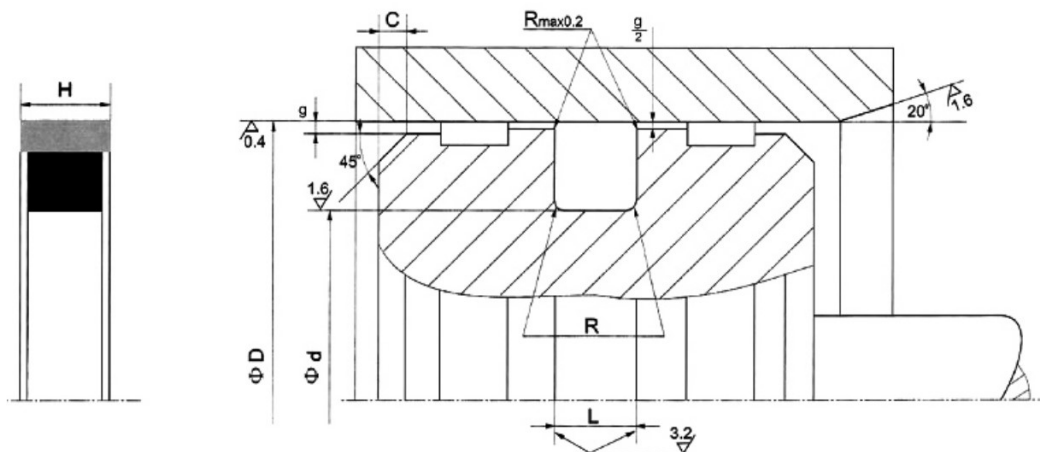
D	d	H	L	C	R1
170	145	11.7	12.5	10	0.4
180	155	11.7	12.5	10	0.4
220	195	11.7	12.5	10	0.4
280	250	14	15	12	0.8
300	270	14	15	12	0.8
320	290	14	15	12	0.8
330	300	14	15	12	0.8
410	375	16.4	17.5	12	1.2
450	420	14	15	12	0.8
550	515	16.4	17.5	12	1.2
600	565	16.4	17.5	12	1.2
720	685	16.4	17.5	12	1.2
950	910	18.7	20	15	1.2

The above sizes are commonly used specifications, and other specifications are available for order.

Rod Seal



FOLON-A



K9 is a double-acting piston seal, which consists of two parts. Its moving surface is made of composite PTFE material, which has good wear resistance and self-lubricating function, and the part providing elasticity is a rectangular rubber seal made of NBR or FPM, with general hardness of N70.

Advantages

- Low friction resistance, no crawling phenomenon.
- Excellent wear resistance in high-speed, light-load operation.
- Integral groove.

Cylinder surface requirements

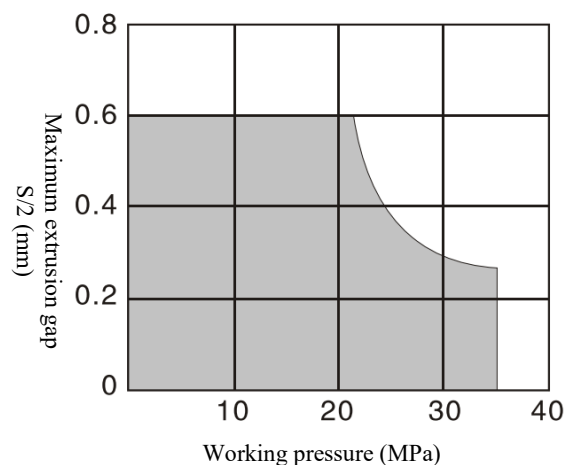
The inner surface of the cylinder should be honed or polished so that the surface roughness reaches $Ra0.4-3.2 \mu m$ ($Rmax0.1-0.8 \mu m$), especially under the poor lubrication conditions.

Technical data

- Speed: Up to 15 m/s
- Pressure: Up to 40 MPa
- Temperature: Depends on material
 - NBR: $-30^{\circ}C - 100^{\circ}C$
 - Rubber: $-20^{\circ}C - 200^{\circ}C$

Medium

Petroleum-based hydraulic oil (depending on material).





Rod Seal

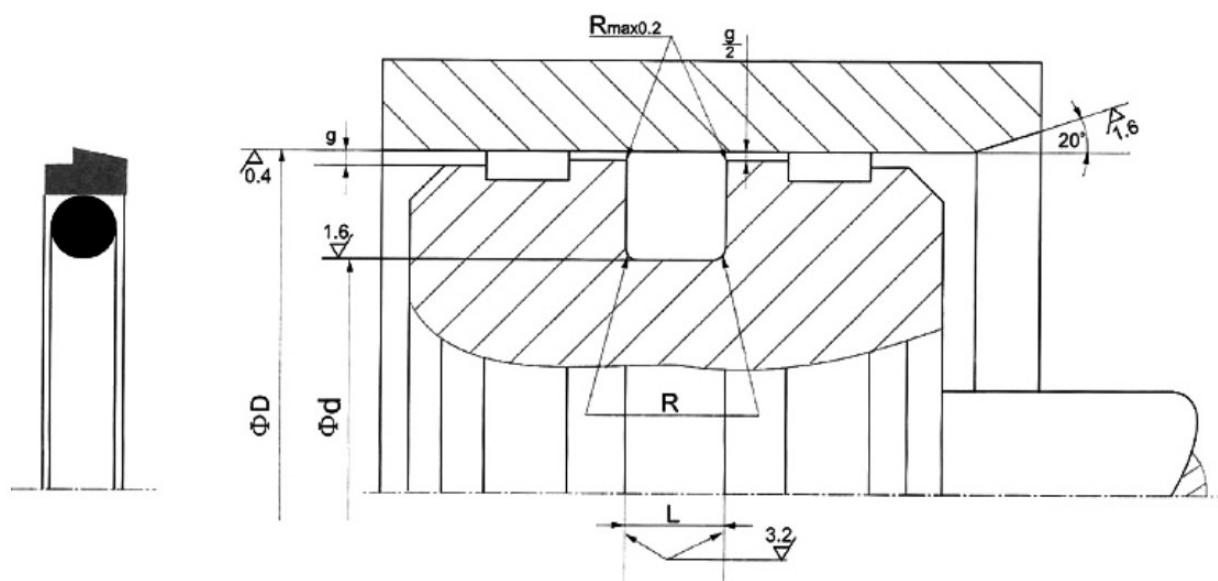
FOLON-A

Nominal dimensions of seal			Mounting size			
Outside diameter D	Inside diameter d	Width H	Groove inside diameter d-D2	Cylinder inside diameter Dh9	Width L+20	Chamfer length C
50	40	4.3	40	50	4.5	4
55	45	4.3	45	55	4.5	4
56	46	4.3	46	56	4.5	4
60	50	4.3	50	60	4.5	4
63	48	7.3	48	63	7.5	4
65	50	7.3	50	65	7.5	4
69	54	7.3	54	69	7.5	4
70	55	7.3	55	70	7.5	5
71	56	7.3	56	71	7.5	5
75	60	7.3	60	75	7.5	5
80	65	7.3	65	80	7.5	5
85	70	7.3	70	85	7.5	5
90	75	7.3	75	90	7.5	5
95	80	7.3	80	95	7.5	5
100	85	7.3	85	100	7.5	5
108	92	7.3	92	108	7.5	5
110	94	7.3	94	110	7.5	5
112	96	7.3	96	112	7.5	6.5
120	104	7.3	104	120	7.5	6.5
125	109	7.3	109	125	7.5	6.5
130	114	7.3	114	130	7.5	6.5
140	124	7.3	124	140	7.5	6.5
145	129	7.3	129	145	7.5	6.5
150	134	7.3	134	150	7.5	6.5
155	139	7.3	139	155	7.5	6.5
160	144	7.3	144	160	7.5	6.5
170	148	10.8	148	170	11	6.5
180	158	10.8	158	180	11	6.5
190	168	10.8	168	190	11	6.5
200	178	10.8	178	200	11	6.5
204	182	10.8	182	204	11	6.5
210	188	10.8	188	210	11	6.5
220	198	10.8	198	220	11	6.5
224	202	10.8	202	224	11	6.5
225	203	10.8	203	225	11	6.5
230	208	10.8	208	230	11	6.5
240	218	10.8	218	240	11	6.5
250	228	10.8	228	250	11	6.5
260	236	11.7	236	260	12	7.5
270	246	11.7	246	270	12	7.5
280	256	11.7	256	280	12	7.5
290	266	11.7	266	290	12	7.5
300	276	11.7	276	300	12	7.5

Rod Seal



FOLON-A



Cylinder diameter $\Phi DH9$			Groove outside diameter	Width	Radial gap g_{max}		Maximum radius	O-ring series	O-ring wire diameter
Heavy-load series	Standard series	Light-load series							
			$\Phi dh9$	$L+20$	0-20MPa	20-40MPa	R		
	8-16.9	17-26.9	D-4.9	2.2	0.6-0.4	0.4-0.3	0.3-0.5	000	1.78
	17-26.9	27-59.9	D-7.3	3.2	0.8-0.5	0.5-0.3	0.5 - 0.8	100	2.62
17-26.9	27-59.9	60-199.9	D-10.7	4.2	0.8-0.5	0.5-0.4	0.8-1.2	200	3.53
27-59.9	60-199.9	200-255.9	D-15.1	6.3	1.0-0.6	0.6-0.4	1.2-1.5	300	5.33
60-199.9	200-255.9	256-669.9	D-20.5	8.1	1.0-0.6	0.6-0.4	1.5-2.0	400	7.00
200-255.9	256-669.9	670-999.9	D-24.0	8.1	1.2-0.7	0.7-0.5	1.5-2.0	400	7.00
256-669.9	670-999.9		D-27.3	9.5	1.4-0.8	0.8-0.6	2.0-3.0	500	8.40



Rod Seal

FOLON-A

Rod diameter DH9	Groove outside diameter DH9	Width L+20	O-ring type
8	3.1	2.2	006
10	5.1	2.2	009
12	7.1	2.2	011
15	10.1	2.2	012
18	10.7	3.2	111
20	12.7	3.2	112
22	14.7	3.2	113
25	17.7	3.2	115
25.4	18.1	3.2	115
28	17.3	4.2	209
28.5	17.8	4.2	209
30	19.3	4.2	210
31.7	21.0	4.2	211
32	21.3	4.2	211
35	24.3	4.2	213
36	25.3	4.2	214
38	27.3	4.2	215
39	28.3	4.2	215
40	29.3	4.2	216
42	31.3	4.2	217
44.5	33.8	4.2	219
45	34.3	4.2	219
48	37.3	4.2	221
50	39.3	4.2	222
50.8	40.1	4.2	222
52	41.3	4.2	223
55	44.3	4.2	224
57.1	46.4	4.2	224
60	44.9	6.3	327
63	47.9	6.3	328
63.5	48.4	6.3	328
64	48.9	6.3	328
65	49.9	6.3	328
69.8	54.7	6.3	330

Rod diameter DH9	Groove outside diameter DH9	Width L+20	O-ring type
70	54.9	6.3	330
75	59.9	6.3	332
76.2	61.1	6.3	332
80	64.9	6.3	333
82.5	67.4	6.3	334
85	69.9	6.3	335
89	73.9	6.3	336
90	74.9	6.3	336
95	79.9	6.3	337
100	84.9	6.3	340
101.6	86.5	6.3	340
105	89.9	6.3	341
110	94.9	6.3	343
114.3	99.2	6.3	344
115	99.9	6.3	344
120	104.9	6.3	346
125	109.9	6.3	347
127	111.9	6.3	348
130	114.9	6.3	349
132	116.9	6.3	349
133	117.9	6.3	350
135	119.9	6.3	351
140	124.9	6.3	352
145	129.9	6.3	353
150	134.9	6.3	355
154	138.9	6.3	356
155	139.9	6.3	356
160	144.9	6.3	358
165	149.9	6.3	360
170	154.9	6.3	361
175	159.9	6.3	362
180	164.9	6.3	363
190	174.9	6.3	364
200	179.5	8.1	441

Rod Seal



FOLON-A

Rod diameter DH9	Groove outside diameter DH9	Width L+20	O-ring type
210	189.5	8.1	443
220	199.5	8.1	444
230	209.5	8.1	445
240	219.5	8.1	446
250	229.5	8.1	447
260	236.0	8.1	447
270	246.0	8.1	448
280	256.0	8.1	449
290	266.0	8.1	449
300	276.0	8.1	451
310	286.0	8.1	451
320	296.0	8.1	452
330	306.0	8.1	453
340	316.0	8.1	453
350	326.0	8.1	454
360	336.0	8.1	455
370	346.0	8.1	456
380	356.0	8.1	457
390	366.0	8.1	457
400	376.0	8.1	458
410	386.0	8.1	459
420	396.0	8.1	460
430	406.0	8.1	461
440	416.0	8.1	461
450	426.0	8.1	462
460	436.0	8.1	463
470	446.0	8.1	464
480	456.0	8.1	464
490	466.0	8.1	466
500	476.0	8.1	466
510	486.0	8.1	467
520	496.0	8.1	468
530	506.0	8.1	468
540	516.0	8.1	469

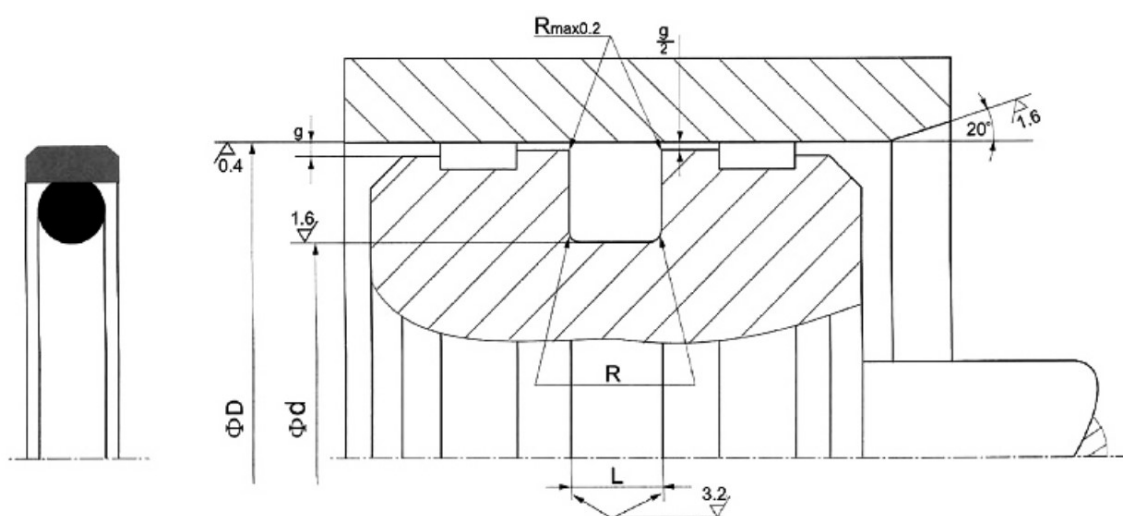
Rod diameter DH9	Groove outside diameter DH9	Width L+20	O-ring type
550	526.0	8.1	469
560	536.0	8.1	470
570	546.0	8.1	470
580	556.0	8.1	471
590	566.0	8.1	471
600	576.0	8.1	471
610	586.0	8.1	472
620	596.0	8.1	472
630	606.0	8.1	473
640	616.0	8.1	473
650	626.0	8.1	473
660	636.0	8.1	474
670	642.7	9.5	640x84
680	652.7	9.5	650x8.4
690	662.7	9.5	660x8.4
700	672.7	9.5	670x8.4
710	682.7	9.5	680x8.4
-1000			

The above sizes are commonly used specifications, and other specifications are available for order.



Rod Seal

FOLONA



Cylinder diameter ΦDH9			Groove outside diameter	Width	Radial gap gmax		Maximum radius	O-ring series	O-ring wire diameter
Heavy-load series	Standard series	Light-load series			0-20MPa	20-40MPa			
			Φdh9	L+0.2	0-20MPa	20-40MPa	R		
	8-14.9	15-39.9	D ^{4.9}	2.2	0.6-0.4	0.4-0.3	0.3-0.5	000	1.78
	15-39.9	40-79.9	D-7.5	3.2	0.8-0.5	0.5-0.3	0.5-0.8	100	2.62
15-39.9	40-79.9	80-132.9	D-11.0	4.2	0.8-0.5	0.5-0.3	0.8-1.2	200	3.53
40-79.9	80-132.9	133-329.9	D-15.5	6.3	1.0-0.6	0.6-0.4	1.2-1.5	300	5.33
80-132.9	133-329.9	330-669.9	D-21.0	8.1	1.0-0.6	0.6-0.4	1.5-2.0	400	7.00
133-329.9	330-669.9	670-999.9	D-24.5	8.1	1.2-0.7	0.7-0.5	1.5-2.0	400	7.00
330-669.9	670-999.9		D-28.0	9.5	1.4-0.8	0.8-0.6	2.0-3.0	500	8.40

Rod Seal



FOLON-A

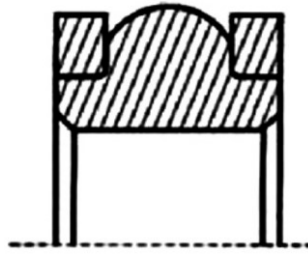
Rod diameter DH9	Groove outside diameter DH9	Width L+0.2	O-ring type	Rod diameter DH9	Groove outside diameter DH9	Width L+0.2	O-ring type
8	3.1	2.2	006	64	53.0	4.2	226
10	5.1	2.2	009	65	54.0	4.2	227
12	7.1	2.2	011	69.8	58.8	4.2	228
15	7.5	3.2	109	70	59.0	4.2	228
16	8.5	3.2	109	70	54.5	6.3	330
18	10.5	3.2	111	75	64.0	4.2	230
20	12.5	3.2	112	76.2	65.2	4.2	230
22	14.5	3.2	113	80	64.5	6.3	333
24	16.5	3.2	114	80	59.0	8.1	58X7
25	17.5	3.2	115	82.5	67.0	6.3	334
25.4	17.9	3.2	115	85	69.5	6.3	335
28	20.5	3.2	117	85	64.0	8.1	64X7
28.5	21.0	3.2	117	89	73.5	6.3	336
30	22.5	3.2	118	90	74.5	6.3	336
31.7	24.2	3.2	119	90	69.0	8.1	68X7
32	24.5	3.2	119	95	79.5	6.3	338
35	27.5	3.2	121	95	74.0	8.1	73X7
36	28.5	3.2	122	100	84.5	6.3	339
38	30.5	3.2	123	100	79.0	8.1	79X7
39	31.5	3.2	124	101.6	86.1	6.3	340
40	29.0	4.2	216	105	89.5	6.3	341
42	31.0	4.2	217	105	84.0	8.1	83X7
44.5	33.5	4.2	219	110	94.5	6.3	343
45	34.0	4.2	219	110	89.0	8.1	89X7
48	37.0	4.2	221	114.3	98.8	6.3	344
50	39.0	4.2	222	115	99.5	6.3	344
50.8	39.8	4.2	222	115	94.0	8.1	94X7
52	41.0	4.2	223	120	104.5	6.3	346
55	44.0	4.2	224	120	99.0	8.1	99X7
57.1	46.1	4.2	224	125	109.5	6.3	347
60	49.0	4.2	225	125	104.0	8.1	101X7
63	52.0	4.2	226	127	111.5	6.3	348
63.5	52.5	4.2	226	130	114.5	6.3	349



Rod Seal

FOLON-A

Rod diameter DH9	Groove outside diameter DH9	Width L+0.2	O-ring type	Rod diameter DH9	Groove outside diameter DH9	Width L+0.2	O-ring type
130	109.0	8.1	106×7	390	365.5	8.1	457
132	116.5	6.3	350	400	375.5	8.1	458
133	112.0	8.1	425	410	385.5	8.1	459
135	114.0	8.1	425	420	395.5	8.1	460
140	119.0	8.1	426	430	405.5	8.1	461
145	124.0	8.1	428	440	415.5	8.1	461
150	129.0	8.1	430	450	425.5	8.1	462
154	133.0	8.1	431	460	435.5	8.1	463
155	134.0	8.1	431	470	445.5	8.1	464
160	139.0	8.1	433	480	455.5	8.1	464
165	144.0	8.1	434	490	465.5	8.1	465
170	149.0	8.1	436	500	475.5	8.1	466
175	154.0	8.1	437	510	485.5	8.1	467
180	159.0	8.1	438	520	495.5	8.1	468
190	169.0	8.1	439	530	505.5	8.1	468
200	179.0	8.1	441	540	515.5	8.1	469
210	189.0	8.1	443	550	525.5	8.1	469
220	199.0	8.1	444	560	535.5	8.1	470
230	209.0	8.1	445	570	545.5	8.1	470
240	219.0	8.1	446	580	555.5	8.1	471
250	229.0	8.1	447	590	565.5	8.1	471
260	239.0	8.1	447	600	575.5	8.1	471
270	249.0	8.1	448	610	585.5	8.1	472
280	259.0	8.1	449	620	595.5	8.1	472
290	269.0	8.1	450	630	605.5	8.1	473
300	279.0	8.1	451	640	615.5	8.1	473
310	289.0	8.1	451	650	625.5	8.1	473
320	299.0	8.1	452	660	635.5	8.1	474
330	305.5	8.1	453	670	642.0	9.5	640×8.4
340	315.5	8.1	453	680	652.0	9.5	650×8.4
350	325.5	8.1	454	690	662.0	9.5	660×8.4
360	335.5	8.1	455	700	672.0	9.5	670×8.4
370	345.5	8.1	456	710	682.0	9.5	680×8.4
380	355.5	8.1	457	-1000			



1, Feature

It is a combination compression seal consisting of a fabric-reinforced elastic seal and two back-up rings as gap sealing elements.

2, Material

Sealing element

Material: NBR and reinforced fabric

Hardness: 80 Shore A

Guide ring

Material: POM resin

Designation: POM992020

3, Performance

Double-acting piston seals are mainly used as a replacement part for maintenance. For new designs, we recommend using the new structural product series.

4, Operating limit

Pressure: 50MPa Linear speed: 1 m/s

Medium/temperature	88NBR/POM
Hydraulic oil, HL/HLP	-30°C +100°C
HFA/HFB fluid	+5°C +60°C
HFC fluid	-30°C ~+60°C
HFD fluid	—
Water	+5°C ~+90°C
HETG (rapeseed oil)	-30°C ~+80°C
HEEs (synthetic ester)	—
HEPG (ethylene glycol)	-30°C ~+60°C
Mineral grease	-30°C ~100°C

5. Design basis

Surface quality		
Roughness/depth	R max	Ra
Slide surface	≤2.5μm	0.05-0.3μm
Groove bottom	≤6.3μm	≤1.6μm
Groove side	≤15μm	≤3μm

Cross-section support length ratio: $M > 50\%$ and $\leq 90\%$;
depth of cut: $C = Rz/2$; and reference line: $C_{ref} = 0\%$

Gap width

The maximum gap size on the non-pressure side of the seal during operation is decisive for the sealing function.

Maximum allowable gap size

Piston seal for hydraulic cylinder

Diameter	g _{max}			
D	26MPa	32MPa	40MPa	50MPa
≤80	0.6	0.55	0.45	0.35
>80	0.65	0.6	0.5	0.4

Recommended tolerance and dimension d2

When determining the dimension d2, the allowable gap size, tolerance, guide ring gap and guide ring deformation under load should be considered

Recommended tolerance		
Nominal diameter D	D	d
≤520	H11	h11

Mounting

Careful mounting is a prerequisite for the ideal function of the seal.



Rod Seal

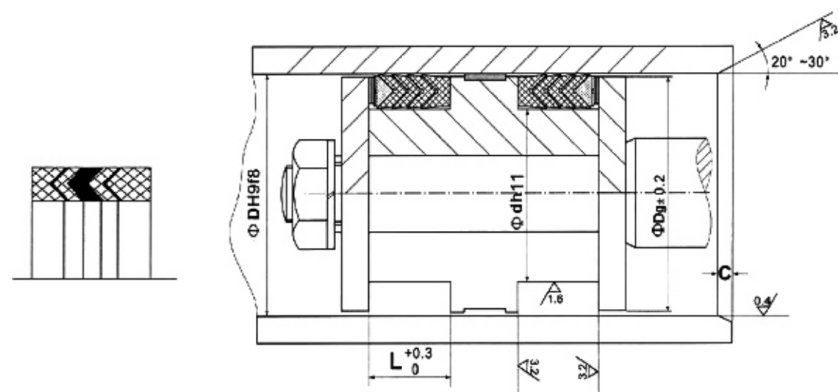
Size Chart

FOLON-A

D	d	H	L	C
40	32	9	9.5	4
50	38	11	11.5	4
50	38	14	14.5	4
63	50	14	14.5	4
63	51	14	14.5	4
75	63	18	18.5	4
80	66	16	16.5	5
90	76	16	16.5	5
100	86	16	16.5	5
105	91	16	16.5	5
110	95	15	15.5	5
120	105	15	15.5	6
125	110	15.2	15.7	6
130	113	20	20.5	6
135	118	20	20.5	6
140	125	15.4	15.9	6
150	135	15	15.5	6
160	143	19.5	20	6
165	150	15	15.5	6
185	165	15	15.5	6
200	180	15	15.5	6
210	190	15	15.5	6
220	200	19.5	20	6
225	205	24	24.5	6
250	230	25	25.5	6
280	255	24.3	24.8	6
320	300	25	25.5	6

The above sizes are commonly used specifications, and other specifications are available for order.

Rod Seal



Chamfer

Bore diameter D	Chamfer c
0 ~ 100	5
101 ~ 200	7
201 ~ 400	10

Tolerance

Bore diameter D	ΦD	Φd
≤ 80	H9/f8	H11
> 80 — 120	H8/f8	
> 120 — 500	H8/f7	

Dimension ΦDg = ΦD-1

D	d	L	D	d	L
20	10	11.00	52	40	16.50
25	12	14.35	65	40	35.75
29	16	14.35	56	40	17.63
31	18	14.32	60	45	22.20
30	20	21.50	65	45	28.00
33	20	14.35	55	45	17.50
31.5	20	17.50	60	48	25.00
32	20	17.50	62	48	22.22
32	22	18.15	65	50	24.60
35	25	17.30	70	50	21.95
40	25	19.85	70	50	30.00
42	25	25.40	69	51	28.00
45	26	29.40	67	55	25.00
44	28	17.65	70	55	26.50
40	28	17.00	75	55	30.00
40	30	21.80	75	55	38.50
50	30	29.37	76	56	22.00
45	30	22.50	76	60	29.00
42	30	20.00	77	60	27.00
45	30	22.20	80	60	32.15
42	32	17.30	80	60	22.00
45	35	21.78	75	60	19.00
50	35	22.50	83	63	22.00
52	36	17.60	80	64	25.80
55	38	28.00	77	65	21.00
50	40	17.30	85	65	29.00
55	40	22.60	80	65	26.00
55	40	26.20	85	70	28.00
60	40	30.00	90	70	22.00
65	40	35.75	90	70	30.00

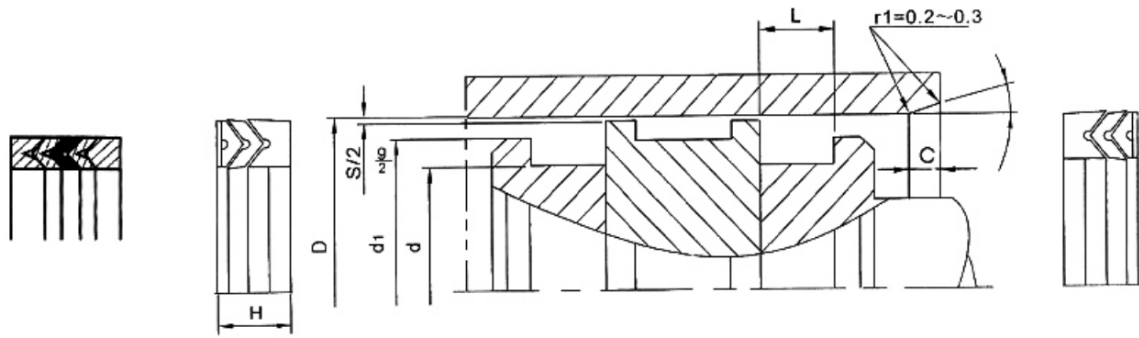


Rod Seal

FOLON-A

D	d	L
90	75	22.50
95	75	30.00
100	75	37.50
95	80	17.50
100	80	30.00
105	90	31.75
110	90	25.00
115	90	27.41
110	90	26.90
110	90	30.00
110	95	24.00
115	100	25.30
120	100	28.00
125	100	27.40
125	100	36.90
125	100	40.00
130	104	37.00
125	105	29.76
120	105	25.00
130	110	30.00
132	110	36.50
130	114	25.80
140	115	37.12
140	120	30.00
150	120	44.00
145	120	39.50
150	125	27.40
145	125	29.60
155	125	34.00
150	130	29.76
145	130	30.00
155	130	40.00
160	130	41.50
155	135	30.55
160	140	28.50
165	140	41.95
170	140	32.97
170	145	38.10
170	150	30.55
180	150	40.00
165	150	29.50
182	157	30.25

D	d	L
190	160	33.00
180	160	30.00
195	170	37.50
200	175	42.00
210	180	33.00
200	180	30.00
230	200	33.00
220	200	30.00
225	205	19.50
240	210	42.10
250	220	52.00
254	224	32.97
254	228.6	38.10
260	230	45.00
270	240	45.00
280	250	33.00
315	280	38.45
320	290	50.80
320	300	32.00
330	310	30.00
350	315	38.45
365	320	55.00
350	320	50.80
360	320	54.00
380	340	60.00
390	350	60.00
400	360	60.00
390	360	50.80
400	369	45.00
440	400	54.00
450	400	75.00
450	410	60.00
450	416	50.00
450	420	70.00
460	420	52.00
500	450	75.00
500	463	55.00
550	500	75.00
545	505	60.00
700	660	60.00
750	700	75.00
840	800	60.00
950	900	75.00



Overview:

K14 combined seal is used for piston sealing in hydraulic cylinder. This type of seal is composed of a fabric-reinforced V-ring, a back-up ring and a compression ring, and can be used in different applications by selecting different V-ring materials.

The K14 combined seal is used as a standard seal for medium and heavy loads. This seal has strong resistance to contamination and good impact resistance.

Advantages:

- Very good static sealing performance.
- Suitable for harsh operating conditions.
- Insensitive to media contamination.
- High resistance to extrusion.
- Suitable for applications with rapid pressure changes.
- High wear resistance.
- Reliable in use even with large tolerances.

Mounting chamfer:

To avoid seal damage during mounting, it is advisable to chamfer the seal with the angle β of 15° - 20° . For chamfer length C, refer to the seal design and selection data of K14 seal.

Surface finish

Surface finish	Ra	Rz
Sliding surface	0.3 μ m	1.6 μ m
Groove bottom	1.6 μ m	6.3 μ m
Groove side	3.2 μ m	10.0 μ m

Mounting method:

If a split piston is required when mounting the K14 seal, do not pull the seal assembly over sharp edges or threads to avoid scratching the seal, and use suitable lubricant for lubrication while mounting, which not only makes mounting easy, but also improves the sealing performance to a certain extent.



Rod Seal

FOLON-A

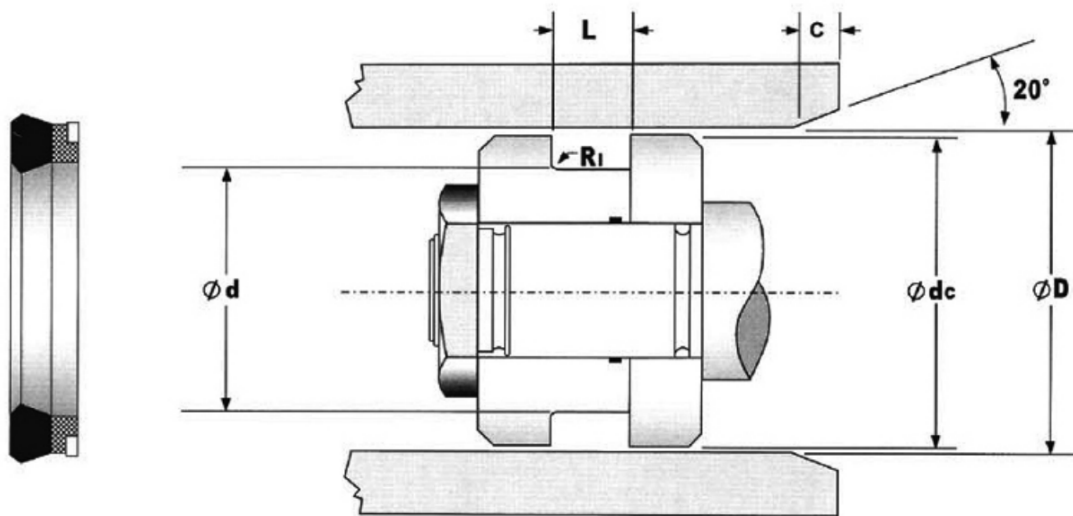
D	d	H	L+0.3	d1	Cmin
20.00	10.00	8.90	9.30	19.00	3.00
22.00	12.00	8.90	9.30	21.00	3.00
25.00	15.00	8.90	9.30	24.00	3.00
28.00	18.00	8.90	9.30	27.00	3.00
30.00	20.00	8.90	9.30	29.00	3.00
32.00	20.00	10.40	10.90	31.00	4.00
35.00	23.00	10.40	10.90	34.00	4.00
36.00	24.00	10.40	10.90	35.00	4.00
40.00	25.00	11.00	11.50	39.00	5.00
42.00	27.00	11.00	11.50	41.00	5.00
45.00	30.00	11.00	11.50	44.00	5.00
50.00	35.00	11.00	11.50	49.00	5.00
55.00	40.00	11.00	11.50	54.00	5.00
56.00	41.00	11.00	11.50	55.00	5.00
60.00	45.00	11.00	11.50	59.00	5.00
63.00	48.00	12.50	13.00	62.00	5.00
70.00	50.00	14.60	15.20	69.00	5.00
80.00	60.00	14.60	15.20	79.00	5.00
90.00	70.00	20.60	21.20	89.00	5.00
100.00	80.00	20.60	21.20	99.00	5.00
110.00	90.00	20.60	21.20	109.00	5.00
115.00	95.00	25.00	21.20	114.00	5.00
125.00	100.00	25.00	25.80	124.00	6.50
140.00	115.00	25.00	25.80	139.00	6.50
150.00	120.00	28.00	29.00	148.50	7.50
160.00	130.00	28.00	29.00	158.50	7.50
180.00	150.00	30.50	31.50	178.50	7.50
200.00	170.00	32.50	33.50	198.50	7.50
220.00	190.00	32.50	33.50	218.50	7.50
225.00	195.00	32.50	33.50	223.50	7.50
250.00	220.00	32.50	33.50	248.50	7.50
275.00	245.00	32.50	33.50	273.50	7.50
300.00	270.00	32.50	33.50	298.50	7.50

The above sizes are commonly used specifications, and other specifications are available for order.

Rod Seal



FOLON-A



D	D>120	d	D>120	L	dg	R1
H11	H10	js11	js10	+0.4(0.016) +0.6(0.024)	±0.1 (±0.004)	MAX

Temperature °C	Pressure	Speed
-30	6000psl	1.5ft/sec
+90	400bar	0.5m/sec

Surface treatment	
Dynamic	0.4µm Ra
Static	0.8 µm Ra

Bevel dimensions	
D	C
0-60	4
60-120	5
120-180	6
180-250	8
250-400	10



Rod Seal

FOLON-A

D	d	L	dc	R1
25	12	9.5	24.8	0.4
34	22	9	33.8	0.4
40	26	9	39.8	0.4
45	30	9	44.8	0.8
45	35	8.5	44.8	0.4
50	30	14	49.8	0.8
50	38	9.4	49.8	0.4
50	40	10	49.8	0.4
55	40	10.5	54.8	0.8
60	40	14	59.8	0.8
65	45	14	64.8	0.8
65	50	10	64.8	0.8
65	50	10.5	64.8	0.8
70	50	14	69.8	0.8
75	60	12	74.8	0.4
80	60	14	79.8	0.8
80	65	11	79.8	0.8
80	65	12	79.8	0.8
85	70	12	84.8	0.8
90	70	14	89.8	0.8
90	75	12	89.8	0.8
95	75	14	94.8	0.8
95	80	12	94.8	0.8
100	80	10.5	99.8	0.8
100	80	14	99.8	0.8
100	85	12	99.8	0.8
104.5	85	14	104.3	0.8
105	85	14	104.8	0.8
110	90	12.5	109.8	0.8
110	95	12	109.8	0.8
110	95	12.5	109.8	0.8
115	95	14	114.8	0.8
115	103	12	114.8	0.4
120	100	12.5	119.8	0.8
125	100	14	124.8	0.8
125	105	12	124.8	0.8

D	d	L	dc	R1
125	105	15	124.8	0.8
130	110	12	129.8	0.8
130	110	15	129.8	0.8
140	120	12	139.8	0.8
140	120	15	139.8	0.8
145	130	9	144.8	0.8
150	130	15	149.8	0.8
160	140	15	159.8	0.8
180	160	15	179.8	0.8
200	180	15	199.8	0.8
220	190	18	219.7	0.4
250	215	20	249.7	0.8
280	245	20	279.7	0.8
320	280	23	319.6	0.8
360	320	23	359.6	0.8

Imperial size

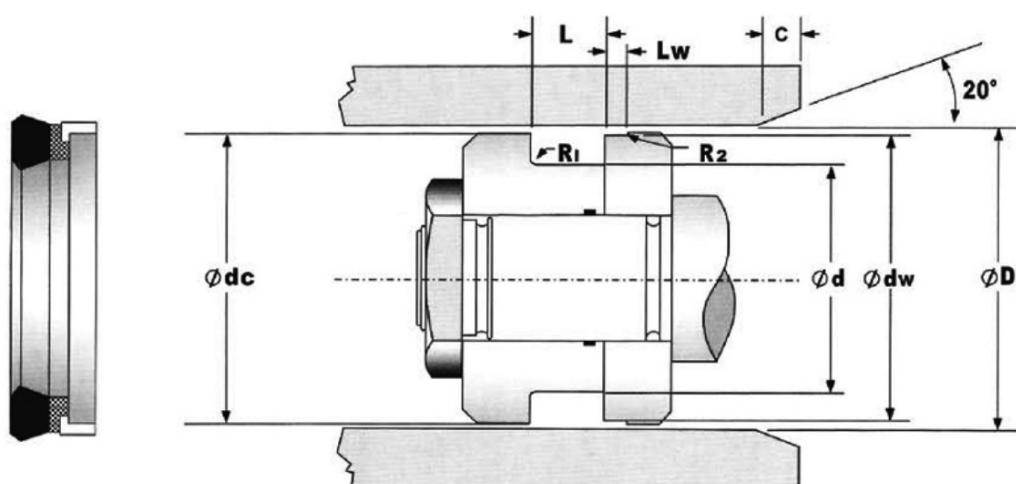
D	d	L	dc	R1
2.000	1.250	0.468	1.992	0.032
2.000	1.375	0.437	1.992	0.015
2.000	1.500	0.375	1.992	0.015
2.250	1.625	0.312	2.242	0.015
2.375	1.750	0.437	2.367	0.015
3.000	2.250	0.500	2.992	0.032
3.000	2.250	0.562	2.992	0.032
3.625	3.000	0.375	3.617	0.015
4.000	3.250	0.562	3.992	0.032
4.000	3.500	0.375	3.992	0.015
5.000	4.000	0.750	4.992	0.046
5.000	4.500	0.750	4.992	0.015
5.500	4.500	0.750	5.492	0.046
8.500	7.250	1.000	8.488	0.046

The above sizes are commonly used specifications, and other specifications are available for order.

Rod Seal



FOLON-A



D	$D > \begin{smallmatrix} +120 \\ (5.000) \end{smallmatrix}$	d	$D > \begin{smallmatrix} +120 \\ (5.000) \end{smallmatrix}$	dc	dw	L	LW	R1 R2
H11	H10	js11	js10	± 0.1 (± 0.004)	± 0.5 (± 0.002)	$\begin{smallmatrix} +0.4 \\ -0.6 \\ (+0.016) \\ (-0.024) \end{smallmatrix}$	$\begin{smallmatrix} +0.1 \\ +0 \\ (+0.014) \\ (-0.024) \end{smallmatrix}$	MAX

Temperature °C	Pressure	Speed
-30	6000psl	1.5ft/sec
+90	400bar	0.5m/sec

Surface treatment	
Dynamic	0.4µm Ra
Static	0.8µm Ra

Bevel dimensions	
D	C
0-60	4
60-120	5
120-180	6
180-250	8
250-400	10



Rod Seal

FOLON A

D	d	L	dw	dc	Lw	R1	R2
25	12	9.5	21.5	24.1	6.4	0.4	0.2
40	28	9	35.4	39.0	6.4	0.4	0.2
45	35	8.5	42.0	43.99	6.4	0.4	0.2
50	30	14	44.3	48.3	6.4	0.8	0.2
50	38	9.4	46.54	49.02	6.4	0.4	0.2
55	40	10.5	50.4	53.65	6.4	0.8	0.2
60	40	14	54.2	58.06	6.4	0.8	0.2
60	45	10.5	54.2	58.65	6.4	0.8	0.2
65	45	14	59.3	63.07	6.4	0.8	0.2
65	50	10	60.1	63.22	6.4	0.8	0.2
65	50	10.5	60.4	63.22	6.4	0.8	0.2
70	50	14	64.3	68.05	6.4	0.8	0.2
80	60	14	74.2	78.34	6.4	0.8	0.2
80	65	11	75.4	78.45	6.4	0.8	0.2
85	70	12	80.3	83.44	6.4	0.8	0.2
90	70	14	84.2	88.3	6.4	0.8	0.2
95	75	14	89.1	93.3	6.4	0.8	0.2
100	80	14	94.2	98.3	6.4	0.8	0.2
104.5	85	14	98.8	102.47	6.4	0.8	0.2
105	85	14	99.42	102.97	6.4	0.8	0.2
110	90	12.5	104.1	108.33	6.4	0.8	0.2
115	95	14	109.0	112.85	6.4	0.8	0.2
120	100	12.5	114.1	118.33	6.4	0.8	0.35
125	100	14	118.1	122.96	6.4	0.8	0.35
125	105	12	119.3	123.31	6.4	0.8	0.35
130	110	12	123.24	127.96	6.4	0.8	0.35
140	120	12	133.12	137.99	6.4	0.8	0.35

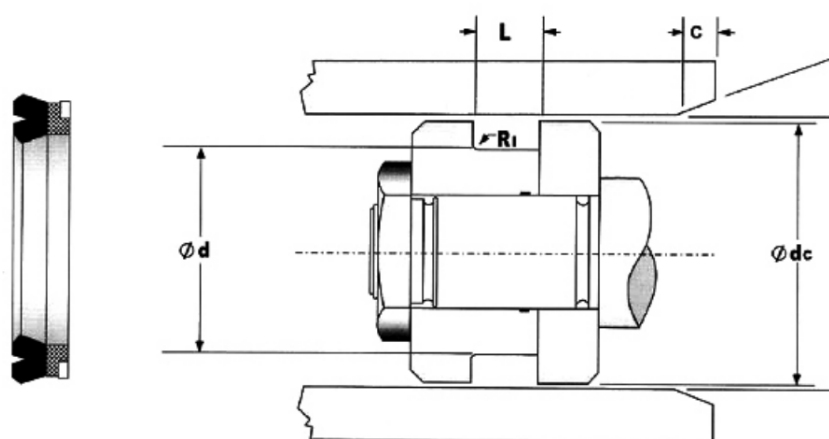
Imperial system

D	d	L	dw	dc	Lw	R1	R2
2.000	1.250	0.468	1.820	1.948	0.250	0.032	0.008
2.000	1.375	0.437	1.820	1.948	0.250	0.015	0.008
2.000	1.500	0.375	1.860	1.950	0.250	0.015	0.008
2.375	1.750	0.437	2.190	2.322	0.250	0.015	0.008
3.000	2.250	0.562	2.770	2.935	0.250	0.032	0.008
4.000	3.250	0.562	3.770	3.933	0.250	0.032	0.008
5.000	4.000	0.750	4.730	4.920	0.250	0.046	0.015

Rod Seal



FOLON-A



D	D>120 (5.000)	d	D>120 (5.000)	L	dc	R1
H11	H10	js11	js10	+0.4(+0.016) +0.6(+0.024)	±0.1 (±0.004)	MAX

Temperature °C	Pressure	Speed
-30	6000psl	1.5ft/sec
+90	400bar	0.5m/sec

Surface treatment	
Dynamic	0.4µm Ra
Static	0.8µm Ra

Bevel dimensions	
D	C
0-60	4
60-120	5
120-180	6
180-250	8
250-400	10

D	d	L	dc	R1
32	22	9	31.8	0.4
40	25	11	39.8	0.4
50	35	11	49.8	0.4
55	40	10.5	54.8	0.8
63	48	11	62.8	0.4
65	50	10	64.8	0.8
80	65	11	79.8	0.4
80	65	12	79.8	0.8
95	80	12	94.8	0.8
100	75	15	99.8	0.8
100	80	13	99.8	0.8
105	85	18	104.8	0.8
110	90	12.5	109.8	0.8
115	90	16	114.8	0.8
125	100	16	124.8	0.8
125	105	13	124.8	0.8
160	135	16	159.8	0.8
200	180	15	199.8	0.8

Imperial system

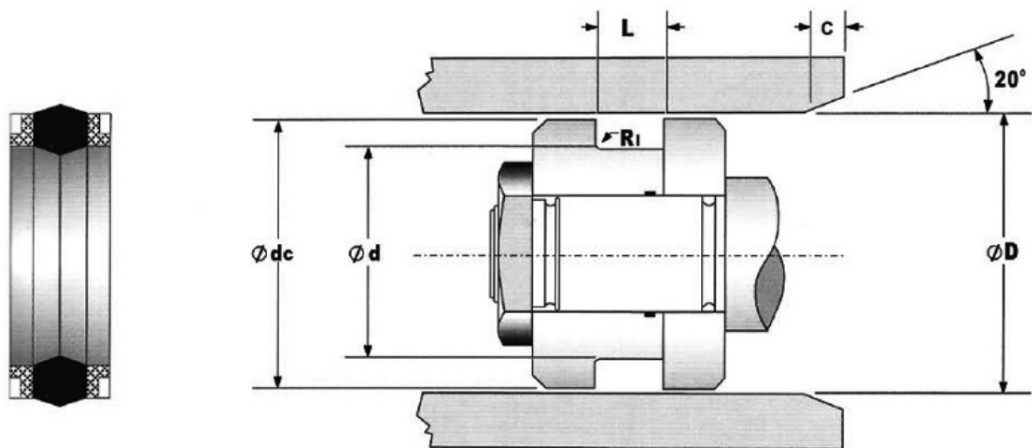
D	d	L	dc	Ri
1.786	1.161	0.468	1.777	0.015
2.125	1.500	0.468	2.117	0.015
2.250	1.625	0.437	2.242	0.015
2.500	1.875	0.375	2.492	0.015
2.625	2.000	0.437	2.617	0.015
2.750	2.125	0.468	2.742	0.015
3.000	2.250	0.500	2.992	0.032
3.500	2.750	0.562	3.492	0.032
4.000	3.250	0.562	3.992	0.032

The above sizes are commonly used specifications, and other specifications are available for order.



Rod Seal

FOLONA



D	D>120 (5.000)	d	D>120 (5.000)	L	dc	R1
H11	H10	js11	JS10	+0.4(+0.016) +0.6(+0.024)	±0.1 (±0.004)	MAX

Temperature °C	Pressure	Speed
-30	10000psl	1.5ft/sec
+90	700bar	0.5m/sec

Surface treatment	
Dynamic	0.4µm Ra
Static	0.8µm Ra

Bevel dimensions	
D	C
0-60	4
60-120	5
120-180	6
180-250	8
250-400	10

Rod Seal



FOLON-A

D	d	L	dc	R1
25	12	12	24.8	0.4
30	17	15	29.8	0.4
32	19	15	31.8	0.4
40	24	18	39.8	0.8
45	29	18	44.8	0.8
50	34	18	49.8	0.8
55	39	18	54.8	0.8
60	44	18	59.8	0.8
60	44	20	59.8	0.8
63	47	19	62.8	0.8
65	50	18	64.8	0.8
70	50	22	69.8	0.8
70	50	25	69.8	0.8
75	55	22	74.8	0.8
75	55	25	74.8	0.8
80	60	22	79.8	0.8
80	60	25	79.8	0.8
80	60	31	79.8	0.8
85	65	22	84.8	0.8
90	70	22	89.8	0.8
90	70	25	89.8	0.8
95	75	22	94.8	0.8
100	75	22	99.8	1.2
100	80	25	99.8	0.8
105	80	22	104.8	1.2
110	85	22	109.8	1.2
110	85	25	109.8	1.2
110	90	25	109.8	0.8
120	95	22	119.8	1.2
120	100	25	119.8	0.8
125	100	25	124.8	1.2
125	100	38	124.8	1.2
130	105	25	129.8	1.2
135	110	25	134.8	1.2
138	110	25	137.8	1.2
140	115	25	139.8	1.2
150	120	38	149.8	1.2
150	125	25	149.8	1.2
160	130	25	159.8	1.2
180	150	35	179.8	1.2
180	160	31	179.8	0.8
216	184	35.4	215.8	1.2

Imperial system

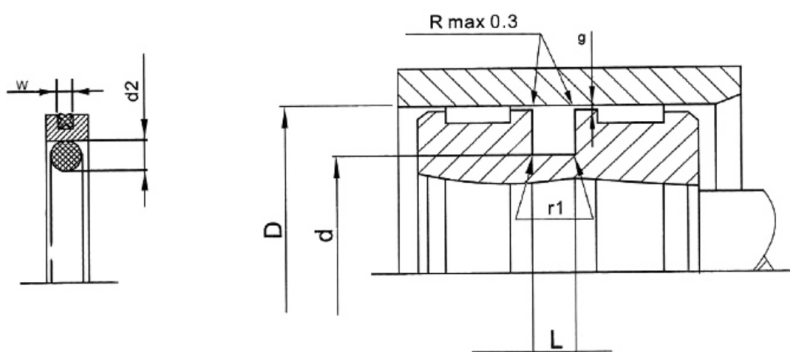
D	d	L	dc	R1
1.500	1.000	0.625	1.492	0.015
1.750	1.125	0.750	1.742	0.015
2.000	1.375	0.750	1.992	0.015
2.250	1.625	0.750	2.242	0.015
2.375	1.750	0.750	2.367	0.015
2.500	1.875	0.750	2.492	0.015
2.625	2.000	0.750	2.617	0.015
2.750	2.000	0.937	2.742	0.032
3.000	2.250	0.937	2.992	0.032
3.000	2.250	1.125	2.992	0.032
3.250	2.500	0.937	3.242	0.032
3.500	2.750	0.937	3.492	0.032
3.750	3.000	0.937	3.742	0.032
4.000	3.250	0.937	3.992	0.032
4.500	3.500	1.250	4.492	0.046
5.000	4.000	1.250	4.992	0.046
5.250	4.250	1.250	5.242	0.046
6.000	5.000	1.250	5.992	0.046

The above sizes are commonly used specifications, and other specifications are available for order.



Rod Seal

FOLON-A



DH9	d h9	L+0.2	O-Ring	X-Ring
16	5	4.2	4.34*3.53	12.42*1.78
18	7	4.2	6.42*3.53	14*1.78
20	9	4.2	8.42*3.53	15.6*1.78
22	11	4.2	10.69*3.53	17.17*1.78
25	14	4.2	13.87*3.53	20.35*1.78
28	17	4.2	15.47*3.53	23.52*1.78
30	19	4.2	18.66*3.53	25.12*1.78
32	21	4.2	20.22*3.53	26.7*1.78
35	24	4.2	23.4*3.53	29.87*1.78
40	29	4.2	28.17*3.53	34.65*1.78
42	31	4.2	29.75*3.53	37.85*1.78
45	34	4.2	32.92*3.53	37.82*1.78
48	37	4.2	36.09*3.53	41*1.78
50	39	4.2	37.7*3.53	44.17*1.78
50	34.5	4.2	32.67*3.53	44.17*1.78
52	41	4.2	40.87*3.53	47.35*1.78
55	44	4.2	44.04*3.53	50.52*1.78
60	49	4.2	47.22*3.53	53.7*1.78
63	52	4.2	50.47*3.53	56.87*1.78
63	47.6	6.3	46.99*5.33	56.87*1.78
65	54	4.2	53.57*3.53	60.05*1.78
70	59	4.2	56.74*3.53	63.22*1.78
70	54.5	6.3	53.34*5.33	63.22*1.78
75	64	4.2	63.09*3.53	69.57*1.78
80	64.5	6.3	53.34*5.33	72.75*1.78
80	59	8.1	58*7.0	21.12*2.62
85	69.5	6.3	69.22*5.33	75.92*1.78
85	64	8.1	63*7.0	75.87*2.62
90	74.5	6.3	72.9*5.33	82.27*1.78
90	69	8.1	68*7.0	82.22*1.78

Rod Seal



FOLON-A

D H9	d h9	L+0.2	O-Ring	X-Ring
95	79.5	6.3	78.74*5.33	88.62*1.78
95	74	8.1	73*7.0	82.22*2.62
100	84.5	6.3	81.92*5.33	88.62*1.78
100	79	8.1	78*7.0	88.57*2.62
105	89.5	6.3	88.27*5.33	94.97*1.78
105	84	8.1	83*7.0	94.92*2.62
110	94.5	6.3	91.44*5.33	101.32*1.78
110	89	8.1	88*7.0	101.27*2.62
115	99.5	6.3	97.79*5.33	107.67*1.78
115	94	8.1	93*7.0	107.62*2.62
120	104.5	6.3	100.97*5.33	100.97*1.78
120	99	8.1	98*7.0	107.62*2.62
125	109.5	6.3	107.32*5.33	114.02*1.78
125	104	8.1	103*7.0	113.97*2.62
130	114.5	6.3	113.67*5.33	120.37*1.78
130	109	8.1	106*7.0	120.32*2.62
135	114	8.1	113.67*7.0	126.67*2.62
140	119	8.1	116.84*7.0	126.67*2.62
150	129	8.1	126.37*7.0	139.37*2.62
160	139	8.1	135.89*7.0	145.72*2.62
170	149	8.1	145.42*7.0	158.42*2.62
180	159	8.1	153.12*7.0	171.11*2.62
190	169	8.1	161.47*7.0	177.47*2.62
200	179	8.1	171.17*7.0	190.17*2.62
210	189	8.1	183.52*7.0	196.52*2.62
220	199	8.1	196.52*7.0	202.87*2.62
230	209	8.1	202.57*7.0	215.57*2.62
240	219	8.1	215.27*7.0	221.92*2.62
250	229	8.1	227.97*7.0	234.62*2.62
260	225.5	8.1	227.97*7.0	234.62*2.62
280	252	9.5	250*8.4	266.29*3.53
300	272	9.5	270*8.4	278.9*3.53
310	282	9.5	280*8.4	291.69*3.53
320	292	9.5	290*8.4	304.39*3.53
350	322	9.5	320*8.4	329.79*3.53
400	372	9.5	370*8.4	380.59*3.53
420	392	9.5	390*8.4	380.59*3.53
450	422	9.5	420*8.4	430.66*3.53
480	445	11.5	444*10.0	456.06*3.53
500	465	11.5	464*10.0	456.06*3.53
600	565	11.5	564*10.0	557.61*3.53
700	665	11.5	664*10.0	658.88*3.53



Rod Seal

FOLON-A

Overview:

K20 combined seal is a new type of piston seal, with the cross-section specially designed to meet the requirements of dynamic and static fluid system. It consists of a PTFE seal (concave seal) and an elastic seal consisting of an X-ring and two O-rings. The concave ring, combined with the X-ring, acts as the main seal of this seal assembly, while the two O-rings act as the auxiliary seal and provide the necessary preload to the main seal.

Working principle

The sealing result of the seal depends on the preload. When the seal assembly is mounted in the groove, the two O-rings apply a force to the concave ring when being compressed, and the force will also be transmitted to the X-ring, making the concave ring and X-ring close to the inner wall and play the sealing effect. When the working pressure of the system rises, the pressure acting on the seal is transformed into radial pressure, and at this time, there is almost no internal leakage of the system.

Advantages:

- Excellent sealing result for both liquids and gases when used as dynamic or static seals, with almost no leakage.
- Excellent friction performance, no crawling during start-up.
- Suitable for a variety of working media and applications with and without lubrication.
- Wide range of applications through the use of different O-ring and X-ring materials.

Mounting chamfer:

To avoid seal damage during mounting, it is advisable to chamfer the seal with the angle β of 15°-20° and length c as follows:

Cross-section code	A	B	C	D
Cmin(mm)	6	8	10	12

Surface finish

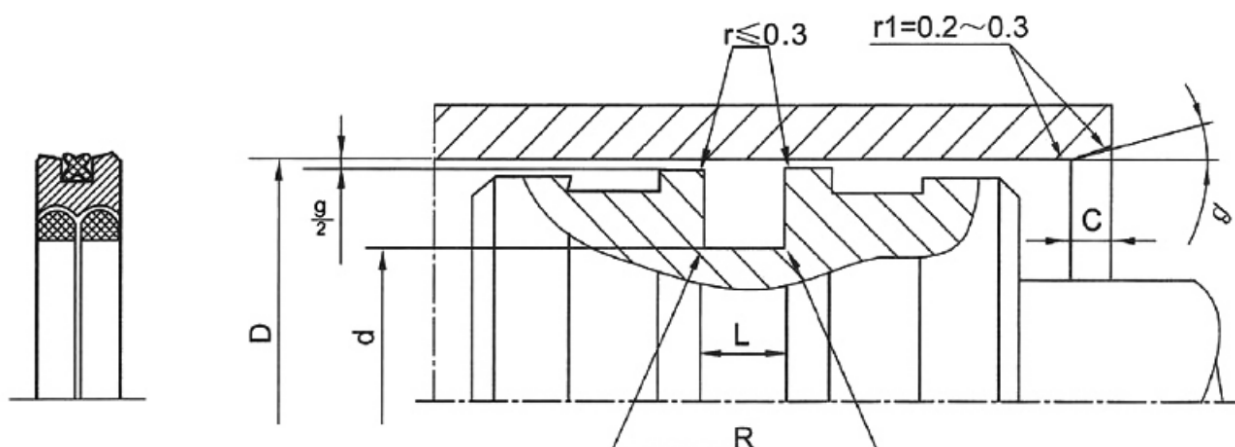
Surface finish	Ra	Rz
Sliding surface	0.3 μ m	1.6 μ m
Groove bottom	1.6 μ m	6.3 μ m
Groove side	3.2 μ m	10.0 μ m

Cross-section code	O-ring wire diameter	X-ring wire diameter	Recommended standard piston range D	Width L	Groove inside diameter d	Radial gap S		Side angle radius
						0-20MPa	20-40MPa	Rmax
A	2.62	1.78	40-79.9	6.30	D-10.00	0.40	0.25	0.60
B	3.53	2.62	80-132.9	8.30	D-13.00	0.60	0.30	1.00
C	5.33	3.53	133-462.9	12.30	D-18.00	0.60	0.35	1.30
D	7.00	5.33	463-700	16.30	D-31.00	0.80	0.50	1.80

Rod Seal



FOLON-A



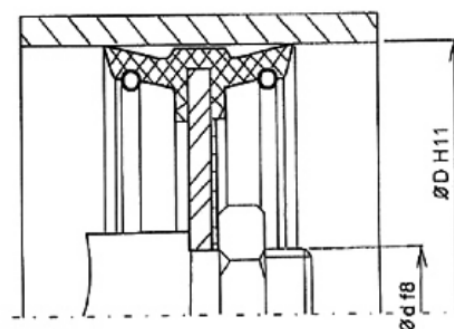
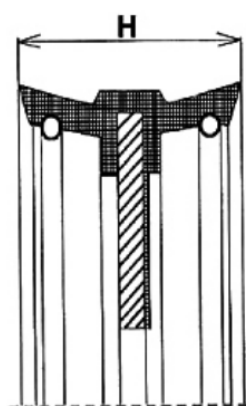
Cylinder inside diameter	Groove dimensions		gmax		Chamfer
	dh9	L+0.2	0-20MPa	20-40MPa	RmaX
40.00	30.00	6.30	0.40	0.25	0.60
42.00	32.00	6.30	0.40	0.25	0.60
45.00	35.00	6.30	0.40	0.25	0.60
48.00	38.00	6.30	0.40	0.25	0.60
50.00	40.00	6.30	0.40	0.25	0.60
52.00	42.00	6.30	0.40	0.25	0.60
55.00	45.00	6.30	0.40	0.25	0.60
60.00	50.00	6.30	0.40	0.25	0.60
63.00	53.00	6.30	0.40	0.25	0.60
65.00	55.00	6.30	0.40	0.25	0.60
70.00	60.00	6.30	0.40	0.25	0.60
75.00	65.00	6.30	0.40	0.25	0.60
80.00	67.00	8.30	0.60	0.30	1.00
85.00	72.00	8.30	0.60	0.30	1.00
90.00	77.00	8.30	0.60	0.30	1.00
95.00	82.00	8.30	0.60	0.30	1.00
100.00	87.00	8.30	0.60	0.30	1.00
105.00	92.00	8.30	0.60	0.30	1.00
110.00	97.00	8.30	0.60	0.30	1.00
115.00	102.00	8.30	0.60	0.30	1.00
120.00	107.00	8.30	0.60	0.30	1.00
125.00	112.00	8.30	0.60	0.30	1.00
130.00	117.00	8.30	0.60	0.30	1.00
135.00	117.00	12.30	0.60	0.35	1.30



Rod Seal

FOLON-A

Cylinder inside diameter	Groove dimensions		gmax		Chamfer
DH9	dh9	L+0.2	0-20MPa	20-40MPa	RmaX
140.00	122.00	12.30	0.60	0.35	1.30
145.00	127.00	12.30	0.60	0.35	1.30
150.00	132.00	12.30	0.60	0.35	1.30
155.00	137.00	12.30	0.60	0.35	1.30
160.00	142.00	12.30	0.60	0.35	1.30
165.00	147.00	12.30	0.60	0.35	1.30
170.00	152.00	12.30	0.60	0.35	1.30
175.00	157.00	12.30	0.60	0.35	1.30
180.00	162.00	12.30	0.60	0.35	1.30
185.00	167.00	12.30	0.60	0.35	1.30
190.00	172.00	12.30	0.60	0.35	1.30
195.00	177.00	12.30	0.60	0.35	1.30
200.00	182.00	12.30	0.60	0.35	1.30
210.00	192.00	12.30	0.60	0.35	1.30
220.00	202.00	12.30	0.60	0.35	1.30
230.00	212.00	12.30	0.60	0.35	1.30
240.00	222.00	12.30	0.60	0.35	1.30
250.00	232.00	12.30	0.60	0.35	1.30
260.00	242.00	12.30	0.60	0.35	1.30
270.00	252.00	12.30	0.60	0.35	1.30
280.00	262.00	12.30	0.60	0.35	1.30
290.00	272.00	12.30	0.60	0.35	1.30
300.00	282.00	12.30	0.60	0.35	1.30
310.00	292.00	12.30	0.60	0.35	1.30
320.00	302.00	12.30	0.60	0.35	1.30
350.00	332.00	12.30	0.60	0.35	1.30
400.00	382.00	12.30	0.60	0.35	1.30
450.00	432.00	12.30	0.60	0.35	1.30
480.00	449.00	16.30	0.80	0.50	1.80
500.00	469.00	16.30	0.80	0.50	1.80
600.00	569.00	16.30	0.80	0.50	1.80
700.00	669.00	16.30	0.80	0.50	1.80



1) Material

NBR with 85 Shore A hardness is cast on steel inserts.

2) Applications

Applications: Low-pressure hydraulic cylinders

Movement: Linear reciprocating movement

Medium: Mineral oil (DIN51524), and non-flammable hydraulic oil (HFA, HFB, HFC)

3) Working conditions:

Pressure: No more than 50 bar

Temperature: -25°C to 100°C

Surface speed: Less than 1 m/s

D	d	H
26	8	22
30	8	22
35	8	22
40	10	22
45	10	22
50	10	25
55	10	25
60	12	26
63	12	25
65	12	25
70	12	30
80	12	30

D	d	H
85	12	35
100	12	35
110	12	40
115	20	30
125	20	40
140	20	40
150	20	40
160	20	40
180	20	40
200	20	40
250	30	40
300	35	40

Pneumatic transmission is a technology that uses compressed air as the working medium to transmit energy and other signals to mechanize and automate the production process.

As pneumatic technology has many outstanding advantages over mechanical transmission, electric transmission and hydraulic transmission, it has developed very rapidly in recent years. By combining with the advantages of mechanical, hydraulic, electrical and electronic technology, the pneumatic technology has become an important means to achieve the automation of the production process and is widely applied in machinery, metallurgy, textile, food, chemical, transportation, aerospace, defense and other sectors.

This section mainly describes the seals for cylinders.

Because the quality of pneumatic seals directly affects the performance and service life of cylinders, the correct use of seals is critical to the normal work of cylinders.

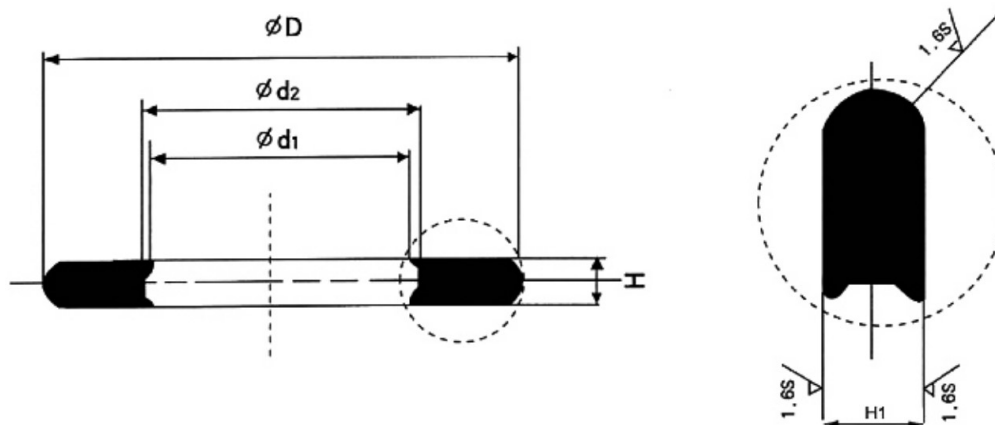
Materials of seals: Oil-resistant rubber, fabric rubber, etc.

Piston seals: Q1, Q2, Q4, Q7, Q8, Q11, Q14, etc.

Rod seals: Q6, etc.

Piston & rod seals: Q5, etc.

Pneumatic dust seals: Q3, Q9, Q12, etc.



D	d1	d2	H	H 1
6.12	2.90	3.00	0.66	—
7.70	3.90	4.10	0.80	—
9.88	5.00	5.20	1.07	1.17
9.88	5.94	6.14	0.97	—
10.40	5.00	5.20	1.30	—
12.60	7.40	7.80	1.40	—
15.06	7.90	8.20	1.375	1.475
23.10	14.90	15.30	1.60	—

D	d	H
6.1	3.0	0.8
7.20	3.2	1.0
8.15	4.8	1.0
10.15	5.0	1.3
10.18	5.0	1.3
10.40	5.0	1.3
10.40	5.0	1.4
10.00	4.0	1.0
10.00	6.0	1.0
11.15	6.0	1.4

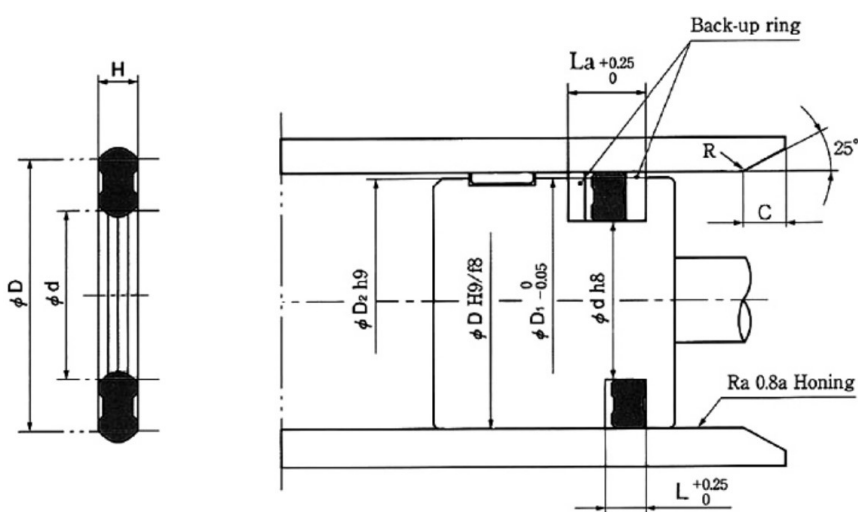
D	d	H
11.70	6.0	1.4
11.80	6.0	1.4
11.50	5.5	1.1
12.60	7.4	1.5
12.80	7.4	1.4
14.15	6.9	1.4
16.15	9.0	1.5
20.16	10.0	1.6
22.16	10.0	1.6
24.16	16.0	2.0

The above sizes are commonly used specifications, and other specifications are available for order.



Pneumatic Seal

FOLON.A



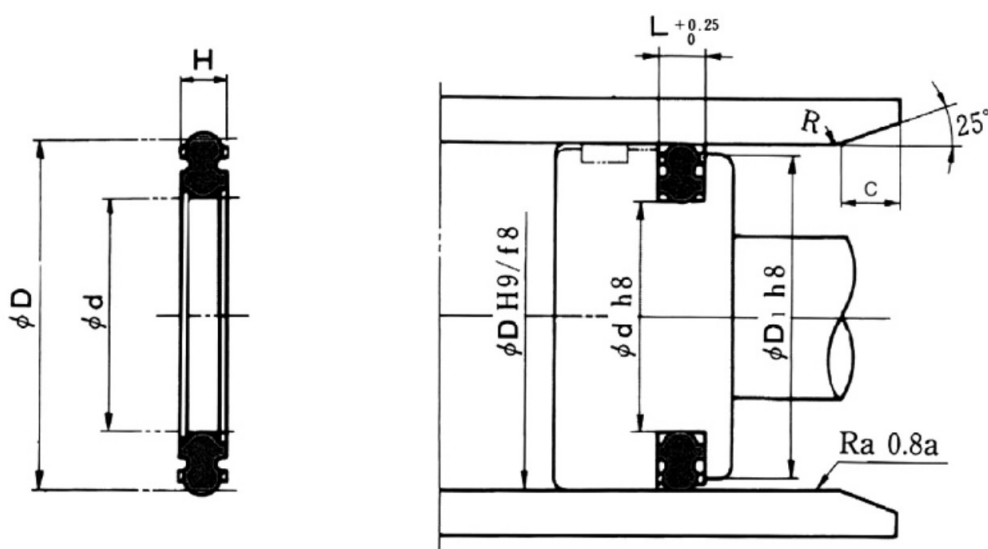
D	d	H	L	La	D1	d2	C
20	14	1.9	2.4	4.4	19.5	19	1.5
25	17	2.6	3.2	5.2	24.5	24	7
30	22	2.6	3.2	5.2	29.5	29	2
32	24	2.6	3.2	5.2	31.5	30.5	2
35	27	2.6	3.2	5.2	34.5	33.5	2
40	32	2.6	3.2	5.2	39.5	38.5	2
40	30	3.4	4	7	39.5	38.5	2.5
45	35	3.4	4	7	44.5	43.5	2.5
50	40	3.4	4	7	49.5	48.5	2.5
55	45	3.4	4	7	54.4	53	2.5
60	50	3.4	4	7	59.4	58	2.5
63	53	3.4	4	7	62.4	61	2.5
65	55	3.4	4	7	64.4	63	2.5
70	55	5.2	6	10	69.4	68	3
80	65	5.2	6	10	79.4	78	3
90	75	5.2	6	10	89.4	88	3
100	85	5.2	6	10	99.4	98	3

The above sizes are commonly used specifications, and other specifications are available for order.

Pneumatic Seal



FOLON-A



NBR

(PSD series)

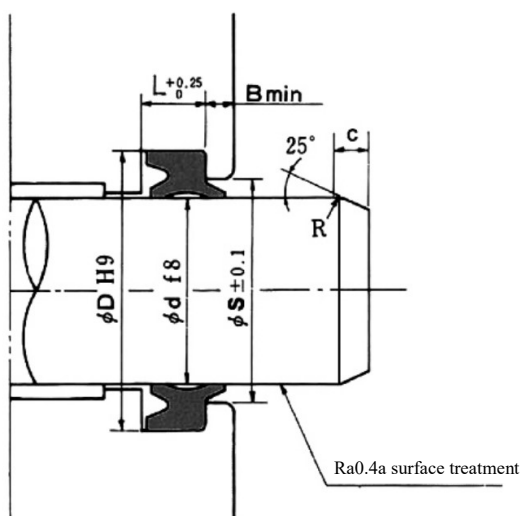
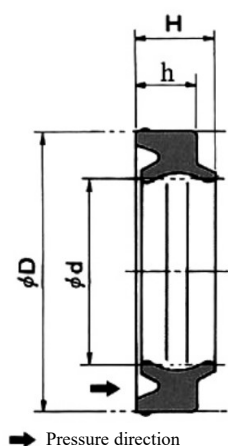
D	d	H	D	d	H
10	5.4	1.6	85	70	5.6
12	7.4	1.6	90	75	5.6
15	10.4	1.6	95	80	5.6
16	11.4	1.6	100	85	5.6
20	14	2.24	110	95	5.6
25	17	3	115	100	5.6
30	22	3	120	105	5.6
32	24	3	125	110	5.6
38	30	3	130	115	5.6
40	32	3	140	125	5.6
44	36	3	150	135	5.6
50	40	3.8	160	140	7.6
56	46	3.8	175	155	7.6
60	50	3.8	180	160	7.6
63	53	3.8	200	180	7.6
70	55	5.6	250	230	7.6
75	60	5.6	300	280	7.6
80	65	5.6			

The above sizes are commonly used specifications, and other specifications are available for order.



Pneumatic Seal

FOLONA



d	D	H	h	L	S	B	r	C
6	10	4.4	3.5	3	7.6	2	0.5	1.5
8	12	4.9 4.7	4	3.5	9.6	2	0.5	1.5
10	14	4.9 4.7	4	3.5	11.6	2	0.5	1.5
12	16	4.9 4.7	4	3.5	13.6	2	0.5	1.5
14	18	4.9 4.7	4	3.5	15.6	2	0.5	1.5
16	24	7.5 7.3	6	5.5	19.4	2	0.6	2
20	28	7.5 7.3	6	5.5	23.4	2	0.6	2
25	33	7.5 7.3	6	5.5	28.4	2	0.6	2
30	40	8.5	7	6.5	34	2	0.8	2.5
32	42	8.5	7	6.5	36	2	0.8	2.5
35	45	8.5	7	6.5	39	2	0.8	2.5
36	46	8.5	7	6.5	40	2	0.8	2.5
40	50	8.5	7	6.5	44	2	0.8	2.5
45	55	8.5	7	6.5	49	2	0.8	2.5

Note: "4.9" in column "H" indicates NBR material.

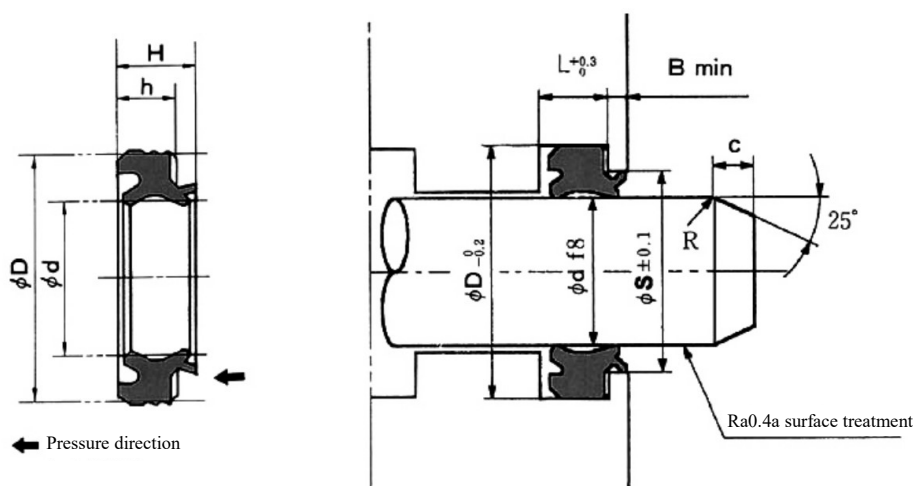
"4.7" in column "H" indicates FKM material.

The above sizes are commonly used specifications, and other specifications are available for order.

Pneumatic Seal



FOLON-A



NBR

(SCK series)

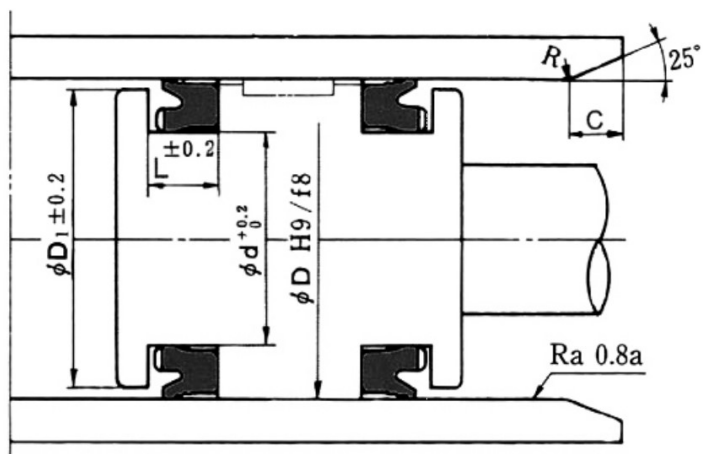
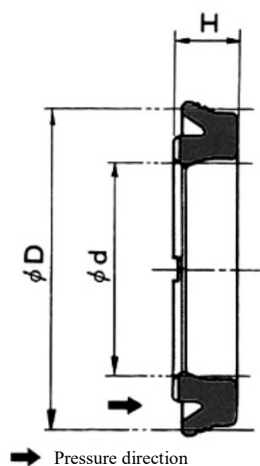
d	D	H	h	S	L	B
18	30	7.7	5.8	24	6	3
20	32	7.7	5.8	26	6	3
25	37	7.7	5.8	31	6	3
28	40	7.7	5.8	34	6	3
30	42	7.7	5.8	36	6	3
35	47	8.7	6.8	41	7	3
40	52	8.7	6.8	46	7	3
45	57	8.7	6.8	51	7	3
50	62	8.7	6.8	56	7	3
55	69	10	7.7	62	8	3
60	74	10	7.7	67	8	3
65	79	10	7.7	72	8	3
70	84	10	7.7	77	8	3
75	89	10	7.7	82	8	3
80	94	10	7.7	87	8	3
85	99	10	7.7	92	8	3
90	104	10	7.7	97	8	3
95	109	10	7.7	102	8	3
100	114	10	7.7	107	8	3
105	121	12	8.7	113	9	4
110	126	12	8.7	118	9	4
115	131	12	8.7	123	9	4
120	136	12	8.7	128	9	4
125	141	12	8.7	133	9	4
130	146	12	8.7	138	9	4
132	148	12	8.7	140	9	4
140	160	14	9.7	150	10	5
160	180	14	9.7	170	10	5

The above sizes are commonly used specifications, and other specifications are available for order.



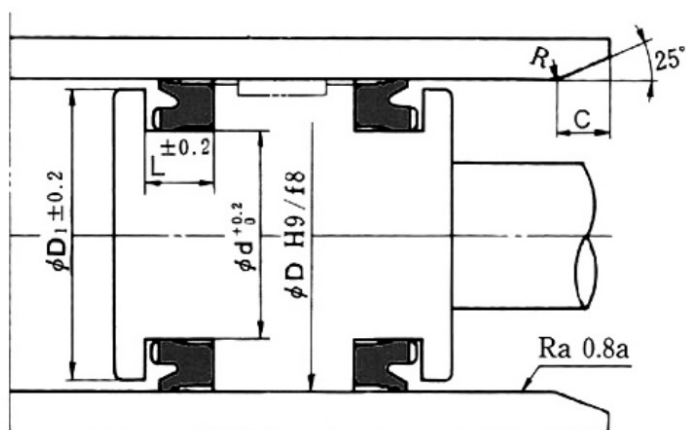
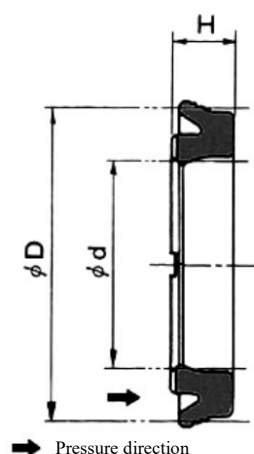
Pneumatic Seal

FOLON-A



D	d	H	L	D _s	C
30	22.4	5.2	5.7	29	3
40	30	6.5	7	39	3
50	40	6.5	7	49	3
63	53	6.5	7	62	3
80	70	6.5	7	79	3
100	85	9.5	10	98.5	4
120	105	9.5	10	118.5	4
125	110	9.5	10	123.5	4
140	125	9.5	10	138.5	4
150	135	9.5	10	148.5	4
160	145	9.5	10	158.5	4
180	165	9.5	10	178.5	4
200	180	12	13	198	5
250	230	12	13	248	5

The above sizes are commonly used specifications, and other specifications are available for order.



NBR

(PPY, PGY series)

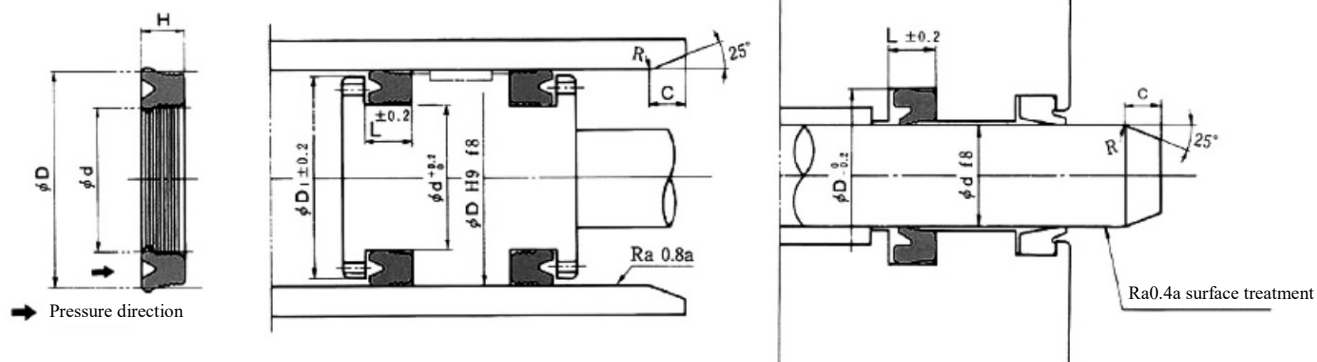
D	d	H	L	D,	C
6	3	2.2	2.6	5.5	2.5
8	4	2.9	3.3	7.5	2.5
10	6	2.9	3.3	9.5	2.5
12	8	2.9	3.3	11.5	2.5
15	10	3.6	4	14	2.5
16	11	3.6	4	15	2.5
20	14	4.3	4.7	19	3
25	17	5.3	5.7	24	3
30	22.4	5.2	5.7	29	3
32	24	5.3	5.7	31	3
40	30	6.5	7	39	3
50	40	6.5	7	49	3
63	53	6.5	7	62	3
80	70	6.5	7	79	3
100	85	9.5	10	98.5	4
120	105	9.5	10	118.5	4
125	110	9.5	10	123.5	4
140	125	9.5	10	138.5	4
150	135	9.5	10	148.5	4
160	145	9.5	10	158.5	4
180	165	9.5	10	178.5	4
200	180	12	13	198	5
250	230	12	13	248	5

The above sizes are commonly used specifications, and other specifications are available for order.



Pneumatic Seal

FOLON-A



d	D	H
10	18	5
12	20	5
14	22	5
16	24	5
17	25	5
18	26	5
20	28	5
22.4	30	5
25	33	5
27	35	5
28	36	5
30	40	6
31.5	41.5	6
32	42	6

d	D	H
35	45	6
35.5	45.5	6
36	46	6
40	50	6
45	55	6
50	60	6
53	63	6
55	65	6
60	70	6
63	73	6
65	75	6
125	140	9
145	160	9

The above sizes are commonly used specifications, and other specifications are available for order.

Q5



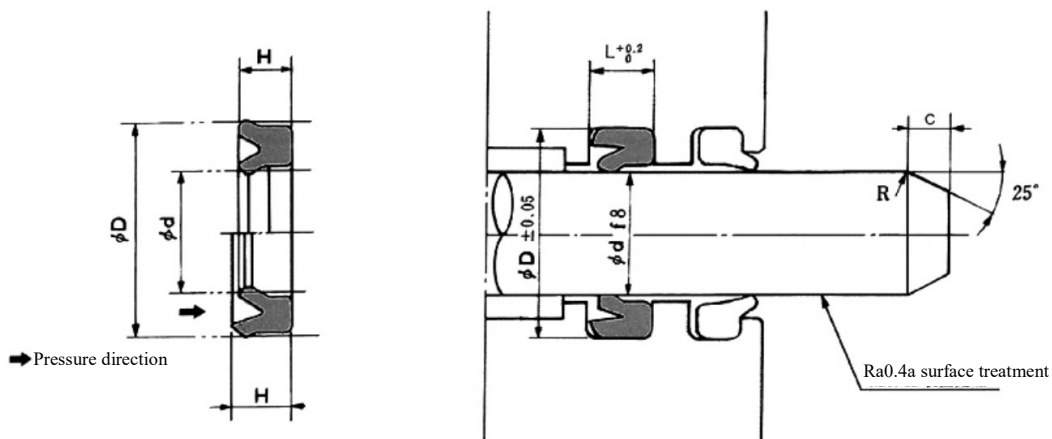
(SGY series)

- 147 -



Pneumatic Seal

FOLON·A



NBR

(PRY, SFY series)

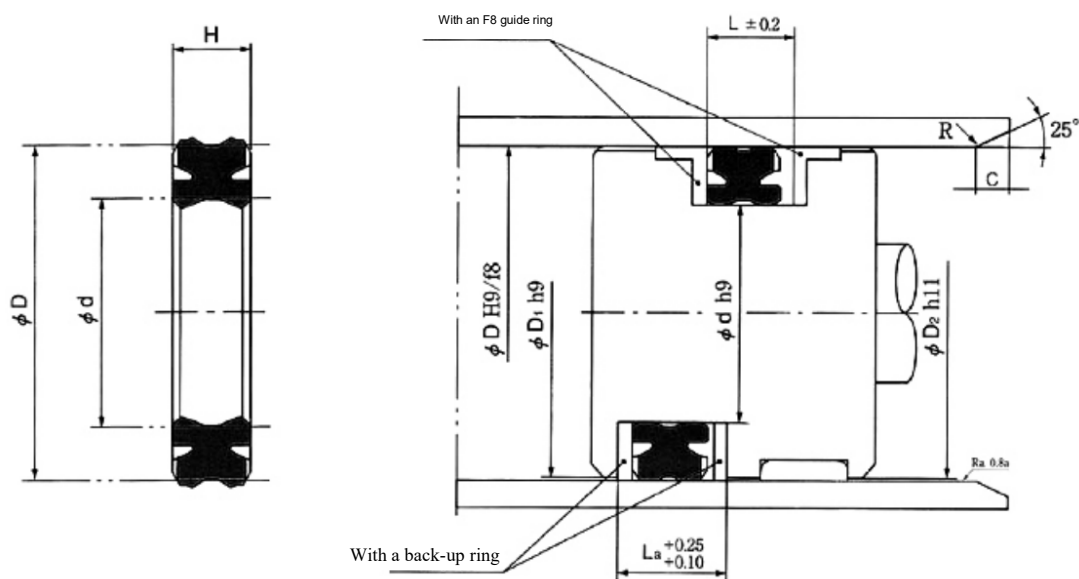
d	D	H	L	C
3	7	2.9	3.2	1.5
4	8	2.9	3.2	1.5
5	9	2.9	3.2	1.5
6	10	3.5	4	1.5
8	12	3.5	4	1.5
10	14	3.5	4	1.5
12	17	4	4.5	1.5
14	19	4	4.5	1.5
16	22	5	5.7	1.5
40	53	8		

The above sizes are commonly used specifications, and other specifications are available for order.

Pneumatic Seal



FOLON-A



NBR

(RGU series)

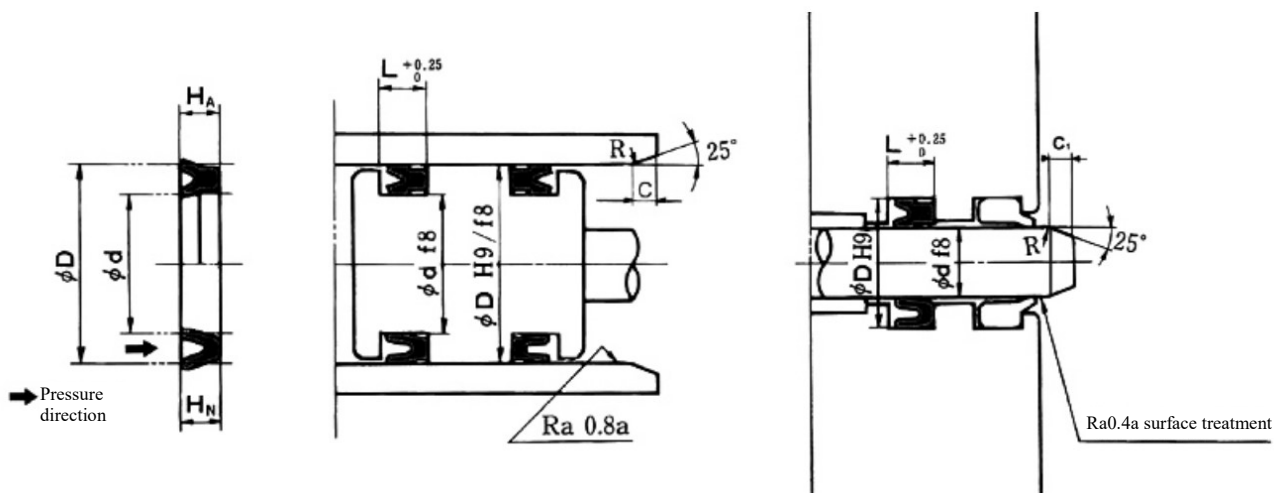
D	d	H	L	La	D ₁	d ₂	C
40	30	6.5	7.0	11.0	39.5	38.5	2.5
45	35	6.5	7.0	11.0	44.5	43.5	2.5
50	40	6.5	7.0	11.0	49.5	48.5	2.5
55	45	6.5	7.0	11.0	54.4	53.0	2.5
60	50	6.5	7.0	11.0	59.4	58.0	2.5
63	53	6.5	7.0	11.0	62.4	61.0	2.5
65	55	6.5	7.0	12.0	64.4	63.0	2.5
70	60	6.5	7.0	12.0	69.4	68.0	2.5
75	65	6.5	7.0	12.0	74.4	73.0	2.5
80	67	8.0	8.5	13.5	79.4	78.0	3.0
85	72	8.0	8.5	13.5	84.4	83.0	3.0
90	77	8.0	8.5	13.5	89.4	88.0	3.0
100	85	9.0	10.0	16.0	99.4	98.0	4.0

The above sizes are commonly used specifications, and other specifications are available for order.

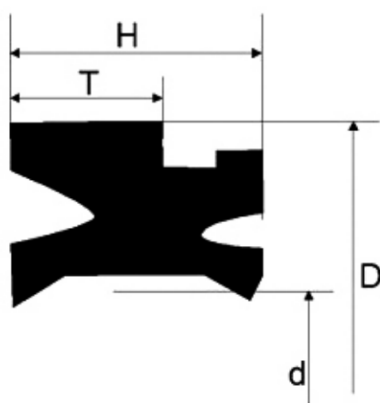


Pneumatic Seal

FOLON A



d	D	ha	hn	L	C	c1
3	6	2.1	2	2.5	2	1.5
4	7	2.1	2	2.5	2	1.5
5	8	2.1	2	2.5	2	1.5
6	9	2.1	2	2.5	2	1.5
7	10	2.1	2	2.5	2	1.5
8	11	2.1	2	2.5	2	1.5
9	12	2.1	2	2.5	2	1.5
10	13	2.1	2	2.5	2	1.5
10	14	2.8	2.7	3.2	2.5	2
11	15	2.8	2.7	3.2	2.5	2
11.2	15.2	2.8	2.7	3.2	2.5	2
12	16	2.8	2.7	3.2	2.5	2
12.5	16.5	2.8	2.7	3.2	2.5	2
14	18	2.8	2.7	3.2	2.5	2
15	19	2.8	2.7	3.2	2.5	2
16	20	2.8	2.7	3.2	2.5	2
18	22	2.8	2.7	3.2	2.5	2
20	24	2.8	2.7	3.2	2.5	2
21	25	2.8	2.7	3.2	2.5	2
22	26	2.8	2.7	3.2	2.5	2
24	30	4.2	4.0	4.7	3	3
34	40	4.2	4.0	4.7	3	3

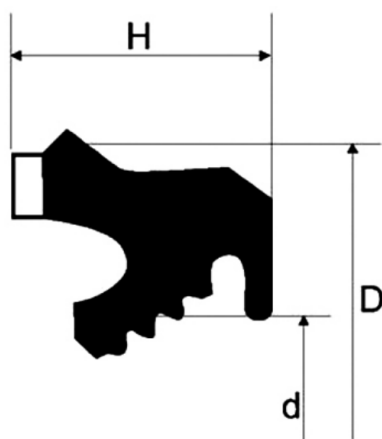


d	D	T	H
4	8.2	2.6	4
6	11.2	3.3	5
8	14.2	3.3	5
10	16.2	3.9	6



Pneumatic Seal

FOLON A



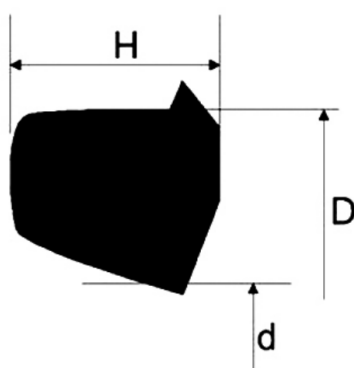
D	d	H	D	d	H
20	12	5.7	120	105	10.1
25	17	5.7	125	110	10.1
28	20	5.7	140	125	10.1
30	22.4	5.7	150	135	10.1
32	24	5.7	160	145	10.1
40	30	7.1	180	165	10.1
50	40	7.1	200	180	13.1
63	52	7.1	250	230	13.1
80	70	7.1	300	280	15.1
100	85	10.1			

The above sizes are commonly used specifications, and other specifications are available for order.

Pneumatic Seal



FOLON-A

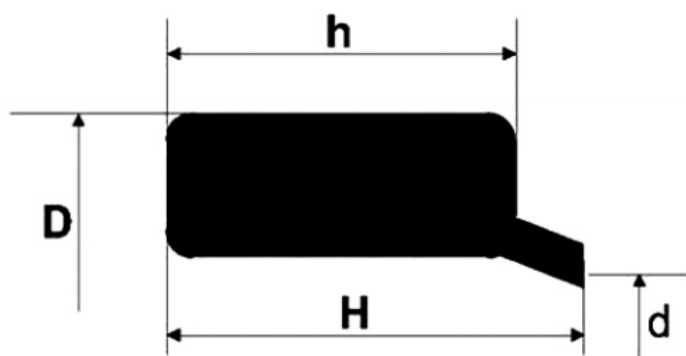


D	d	H	D	d	H
6	3	2	42	36	4.3
7	4	2	44	38	4.3
8	5	2	46	40	4.3
9	6	2	47	41	4.3
10	7	2	48	42	4.3
11	8	2	50	44	4.3
12	9	2	51	45	4.3
13	10	2	52	46	4.3
14	10	2.9	54	48	4.3
15.2	11.2	2.9	56	48	6.9
16	12	2.9	58	50	4.3
16.5	12.5	2.9	60	50	6.9
18	14	2.9	62	52	6.9
19	15	2.9	63	53	6.9
20	16	2.9	65	55	6.9
22	18	2.9	66	56	6.9
24	20	2.9	68	58	6.9
26	22	2.9	70	60	6.9
28	22	2.9	72	62	6.9
28.4	22.4	4.3	73	63	6.9
30	24	4.3	75	65	6.9
31	25	4.3	77	67	6.9
32	26	4.3	80	70	6.9
34	28	4.3	81	71	6.9
36	30	4.3	85	75	6.9
37	31	4.3	90	80	6.9
37.5	31.5	4.3	95	85	6.9
38	32	4.3	100	90	6.9
40	34	4.3	105	95	6.9
41	35	4.3	110	100	6.9
41.5	35.5	4.3			

The above sizes are commonly used specifications, and other specifications are available for order.

Pneumatic Seal

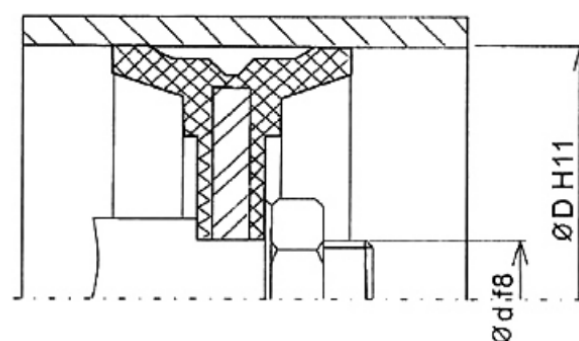
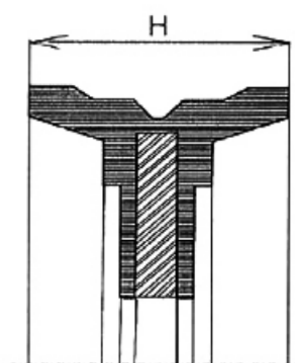
FOLON-A



NBR

(SER series)

d	D	h	H	d	D	h	H
3	6	2	2.75	36	42	4.3	5.8
4	7	2	2.75	38	44	4.3	5.8
5	8	2	2.75	40	46	4.3	5.8
6	9	2	2.75	41	47	4.3	5.8
7	10	2	2.75	42	48	4.3	5.8
8	11	2	2.75	44	50	4.3	5.8
9	12	2	2.75	45	51	4.3	5.8
10	13	2	2.75	46	52	4.3	5.8
10	14	2.9	3.9	48	54	4.3	5.8
11.2	15.2	2.9	3.9	48	58	6.9	9.4
12	16	2.9	3.9	50	56	6.9	5.8
12.5	16.5	2.9	3.9	50	60	6.9	9.4
14	18	2.9	3.9	52	62	6.9	9.4
15	19	2.9	3.9	53	63	6.9	9.4
16	20	2.9	3.9	55	65	6.9	9.4
18	22	2.9	3.9	56	66	6.9	9.4
20	24	2.9	3.9	58	68	6.9	9.4
22	26	2.9	3.9	60	70	6.9	9.4
22	28	4.3	5.8	62	72	6.9	9.4
22.4	28.4	4.3	5.8	63	73	6.9	9.4
24	30	4.3	5.8	65	75	6.9	9.4
25	31	4.3	5.8	67	77	6.9	9.4
26	32	4.3	5.8	70	80	6.9	9.4
28	34	4.3	5.8	71	81	6.9	9.4
30	36	4.3	5.8	75	85	6.9	9.4
31	37	4.3	5.8	80	90	6.9	9.4
31.5	37.5	4.3	5.8	85	95	6.9	9.4
32	38	4.3	5.8	90	100	6.9	9.4
34	40	4.3	5.8	95	105	6.9	9.4
35	41	4.3	5.8	100	110	6.9	9.4
35.5	41.5	4.3	5.8				



1) Material

FIBR with 85 Shore A hardness is cast on steel inserts.

3) Working conditions:

Pressure: No more than 10 bar

Temperature: -25°C to 100°C

Surface speed: Less than 1 m/s

2) Applications

Applications: Pneumatic cylinders

Movement: Linear reciprocating movement

Medium: Mineral oil (DIN51524)

D	d	H
16	4	11
25	8	7
25	8	12
32	8	15
32.35	6	12.5
40	8	20
40	10	18
50	10	18
50	10	20.5
55	10	25
63	12	22
63	16	22
67.69	7.62	25.78
70	12	22

D	d	H
75	12.2	18
80	16	25
90	16	25
100	16	25
110	18	25
125	20	26
125	20	30
140	20	30
150	20	30
160	27	31
180	27	31
200	27	35
250	30	35

Guide Strip

Guide ring and guide strip

Functions of guide ring and guide strip: Evidently, they are used to guide the piston in the hydraulic cylinder and the rod in the cylinder head during operation, and also bear the increased lateral load to avoid metal contact between components during axial movement.

Guide material:

At present, phenolic fabric, POM and PTFE are commonly used.

Phenolic fabric: It is composed of woven fabric and phenolic resin. The characteristics of this material are good bearing capacity and high temperature resistance. The structure of phenolic fabric and the appropriate oil absorption properties of cotton fiber make the guide element self-lubricating. Usually, phenolic fabric is the main guide material on pistons and piston rods in heavy-duty mobile equipment and industrial hydraulic cylinders.

POM: It is a thermoplastic material with relatively low cost, including reinforced and non-reinforced types.

The fiberglass-reinforced POM is the most commonly used material in separating guide elements on pistons and piston rods.

The non-reinforced POM is commonly used in integral guide elements, as these guide rings are often subjected to mechanical and hydraulic loads.

PTFE:

PTFE is much superior to other materials in terms of low friction, anti-crawling, chemical resistance, heat resistance, etc. To get better performance, it is often added with bronze, graphite, or carbon powder, etc. From the point of view of starting friction, PTFE material has better performance than other plastic materials.

Calculation of cutting length:

For shaft: $L=3.10(d+w)$ For bore: $L=3.10(D-w)$

Where: L - Ring length, d - Shaft diameter, D - Bore diameter W - Thickness of wear strip.

Selection of guide ring width:

$$H = \frac{F \times f}{d \times Pr}$$

Where: H - Guide ring width (mm)

F - Maximum radial load (N)

f - Safety coefficient

d - Piston or rod diameter (mm)

Pr - Maximum permissible radial load (N/mm)

Position of guide element:

The orderly arrangement of sealing parts in cylinder design is very important, and the correct position of guide elements can ensure that the piston and rod remain aligned throughout the stroke. Besides, the guide elements can withstand bending load and maintain good working condition. Therefore, suitable guide materials should be selected. When selecting the distance between the rod guide ring and the piston guide ring, the bending resulting from the harsh operating conditions must be taken into account.

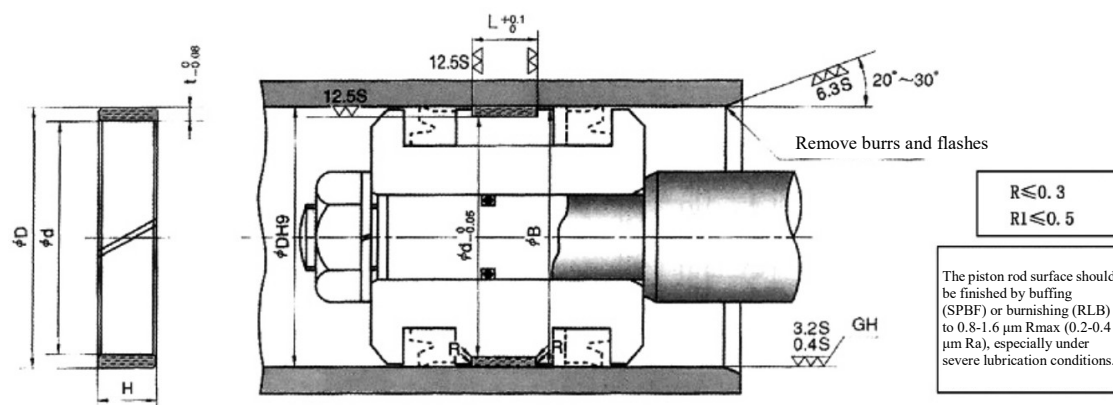
Selection of sizes:

The width of the guide element should be selected according to a gradient of 5 mm or 10 mm, and the width should not be larger than the guide diameter or less than 4 times the thickness of the guide element.

For the rod guide element, the guide width cannot be less than 0.2 times of the guide diameter.

For the piston guide element, the guide width cannot be less than 0.1 times of the guide diameter.

Guide Strip



FOLON-A

Phenolic fabric-reinforced guide ring

Nominal dimensions of wear ring				Housing dimension		
d	D	H	t	d	D	L
14	18	8	2	14	18	8
15.2	19.2	8	2	15.2	19.2	8
16	20	8	2	16	20	8
18	22	8	2	18	22	8
20	24	8	2	20	24	8
21	25	8	2	21	25	8
22	26	8	2	22	26	8
24	28	8	2	24	28	8
26	30	8	2	26	30	8
27	31	8	2	27	31	8
27.5	31.5	8	2	27.5	31.5	8
29	33	10	2	29	33	10
31	35	10	2	31	35	10
31.4	35.4	10	2	31.4	35.4	10
31.5	35.5	10	2	31.5	35.5	10
34	38	10	2	34	38	10
36	40	10	2	36	40	10
37	41	15	2.5	37	41	15
38	43	15	2.5	38	43	15
39.5	44.5	15	2.5	39.5	44.5	15
40	45	15	2.5	40	45	15
45	50	15	2.5	45	50	15
46.5	51.5	15	2.5	46.5	51.5	15
50	55	15	2.5	50	55	15
51	56	15	2.5	51	56	15
55	60	15	2.5	55	60	15
56	61	15	2.5	56	61	15
58	63	15	2.5	58	63	15
60	65	20	2.5	60	65	20
61	66	20	2.5	61	66	20
64	69	20	2.5	64	69	20



Guide Strip

FOLON-A

Phenolic fabric-reinforced guide ring

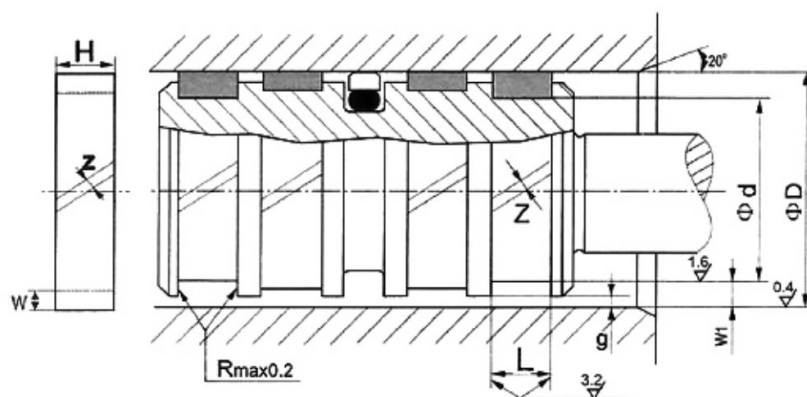
Nominal dimensions of wear ring				Housing dimension		
d	D	H	t	d	D	L
65	70	20	2.5	65	70	20
66	71	20	2.5	66	71	20
70	75	20	2.5	70	75	20
71	76	20	2.5	71	76	20
75	80	20	2.5	75	80	20
79	85	25	3	79	85	25
84	90	25	3	84	90	25
89	95	25	3	89	95	25
94	100	25	3	94	100	25
99	105	25	3	99	105	25
104	110	25	3	104	110	25
106	112	30	3	106	112	30
109	115	30	3	109	115	30
114	120	30	3	114	120	30
119	125	30	3	119	125	30
123	130	30	3.5	123	130	30
125	132	35	3.5	125	132	35
133	140	35	3.5	133	140	35
143	150	35	3.5	143	150	35
150	157	40	3.5	150	157	40
153	160	40	3.5	153	160	40
157	165	45	4	157	165	45
162	170	45	4	162	170	45
172	180	45	4	172	180	45
177	185	45	4	177	185	45
182	190	45	4	182	190	45
192	200	45	4	192	200	45
197	205	50	4	197	205	50
202	210	50	4	202	210	50
212	220	50	4	212	220	50
216	224	50	4	216	224	50
217	225	50	4	217	225	50
222	230	55	4	222	230	55
232	240	55	4	232	240	55
242	250	55	4	242	250	55
252	260	60	4	252	260	60
262	270	60	4	262	270	60
267	275	60	4	267	275	60
282	290	70	4	282	290	70
289	297	70	4	289	297	70
393	300	70	4	393	300	70
304	312	70	4	304	312	70
324	332	70	4	324	332	70

Guide Strip



FOLON-A

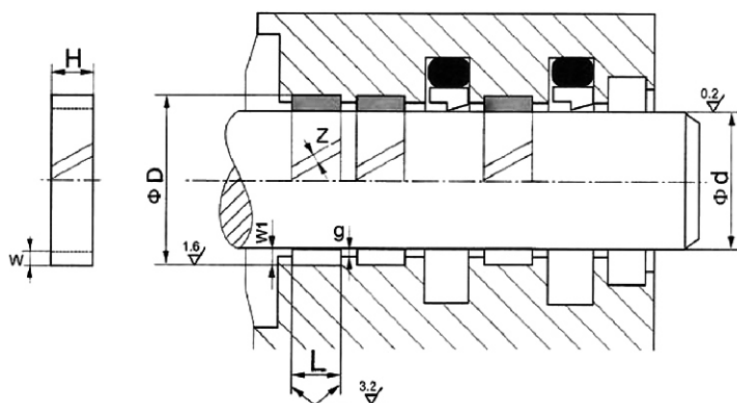
Wear strip for bore



DH9	d-0.05	L+0.2	gmax	z
15-140	D-5.0	5.6	1.0	3-6
60-220	D-5.0	9.7	1.4	4-10
120-400	D-5.0	15.0	1.8	6-20
320-999	D-5.0	25.0	2.2	15-45
100-999	D-8.0	9.7	3.0	4-45

The above sizes are commonly used specifications, and other specifications are available for order.

Wear strip for shaft



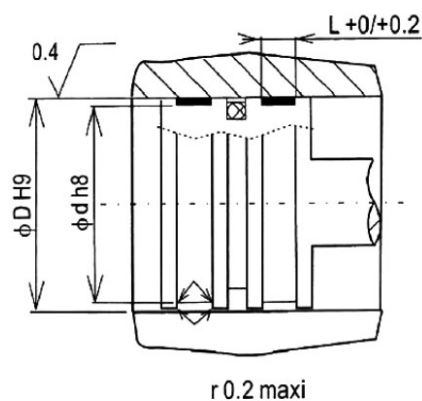
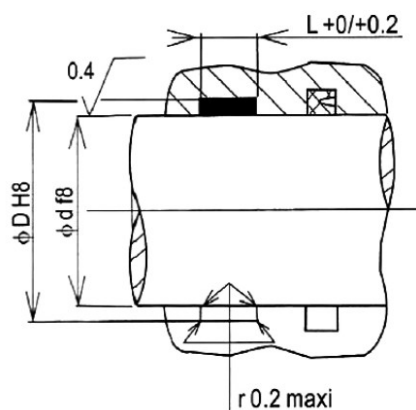
df8	D+0.05	L+0.2	gmax	z
15-140	d+5.0	5.6	1.0	3.6
60-220	d+5.0	9.7	1.4	4-10
120-400	d+5.0	15.0	1.8	6-20
320-999	d+5.0	25.0	2.2	15-45

The above sizes are commonly used specifications, and other specifications are available for order.



Guide Strip

FOLON-A



1) Material

Material: PTFE (with fiberglass)

PTFE (with 40% copper powder and molybdenum disulfide)

2) Applications

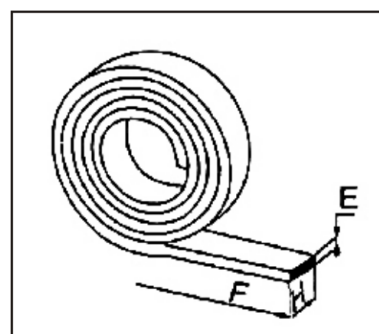
Applications: Hydraulic cylinders and other hydraulic or pneumatic equipment.

Movement: Linear reciprocating movement

3) Working conditions:

Temperature: -60°C to 200°C (subject to different materials)

Linear speed: Less than 15 m/s



Common dimensions of guide ring (strip)

E	H	L
1.5	3	3.2
1.5	4	4.2
1.5	5.4	5.6
1.5	6.1	6.3
1.5	7.9	8.1
1.5	9.8	10
2	3	3.2
2	4	4.2
2	5.4	5.6
2	6.1	6.3
2	7.9	8.1
2	9.5	9.7
2	9.8	10
2	12.5	12.7
2	14.8	15
2	19.5	20

E	H	L
2	24.5	25
2	29.5	30
2	39.5	40
2.5	5.1	5.6
2.5	6.1	6.3
2.5	7.9	8.1
2.5	9.5	9.7
2.5	12.5	12.7
2.5	14.8	15
2.5	15.8	16
2.5	19.5	20
2.5	24.5	25
2.5	29.5	30
2.5	39.5	40
3	12.5	12.7
3	14.8	15

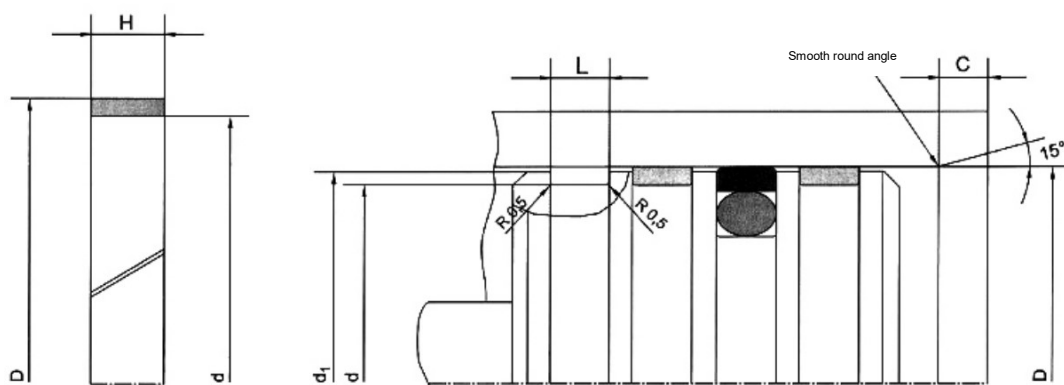
E	H	L
3	4	4.2
3	5.4	5.6
3	6.1	6.3
3	7.1	8.1
3	9.5	9.7
3	9.8	10
3	19.5	20
3	24.5	25
3	29.5	30
3	39.5	40

The above sizes are commonly used specifications, and other specifications are available for order.

Guide Strip



FOLON-A

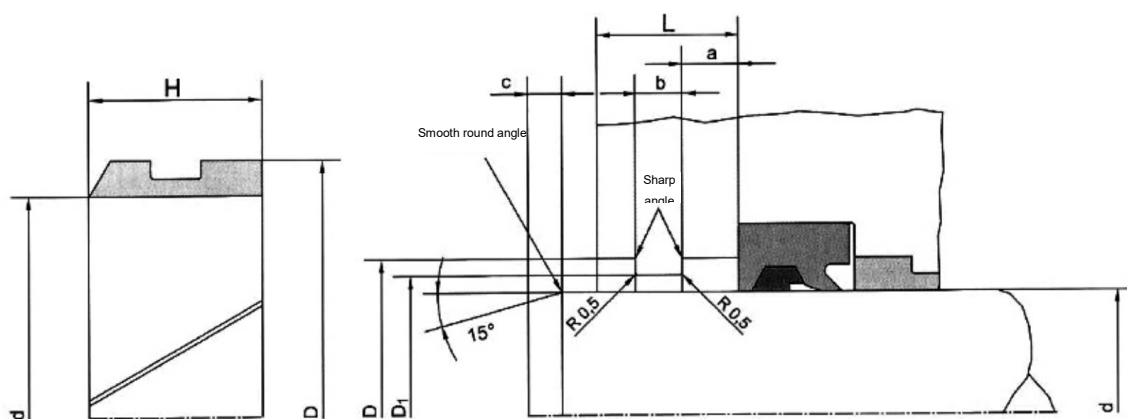


DH8	df8	L	d1f8	H	c	DH8	df8	L	d1f8	H	c
40	35	9.7	39	9.5	7	180	172	14.8	179	15	10
45	40	9.7	44	9.5	7	190	185	14.8	189	15	10
46	41	6	45	5.9	7	200	195	14.8	99	15	10
50	45	9.7	49	9.5	7	210	205	14.8	209	15	12
56	51	9.7	55	9.5	7	220	215	14.8	219	15	12
60	55	6	59	5.9	7	225	220	14.8	224	15	12
63	58	9.7	62	9.5	7	235	230	14.8	234	15	12
65	60	9.7	64	9.5	7	265	260	14.8	264	15	12
70	65	9.7	69	9.5	7	275	270	14.8	274	15	12
75	70	9.7	74	9.5	7	280	275	14.8	279	15	12
80	75	6	79	5.9	7	290	285	14.8	289	15	12
80	75	9.7	79	9.5	7	300	295	14.8	299	15	12
85	80	9.7	84	9.5	7	310	305	14.8	309	15	15
90	85	6	89	5.9	7	320	315	14.8	319	15	15
95	90	9.7	94	9.5	7	340	335	24.5	339	25	15
100	95	6	99	5.9	7	350	345	24.5	349	25	15
100	95	9.7	99	9.5	7	360	355	24.5	359	25	15
105	100	9.7	104	9.5	10	380	375	24.5	379	25	15
110	105	9.7	109	9.5	10	400	395	24.5	399	25	15
115	110	9.7	114	9.5	10	420	415	24.5	419	25	15
120	115	6	119	5.9	10	425	420	24.5	424	25	15
125	120	9.7	124	9.5	10	450	445	24.5	424	25	15
130	125	15	129	14.8	10	400	475	24.5	479	25	15
135	130	15	134	14.8	10	500	495	24.5	499	25	15
140	135	15	139	14.8	10	560	555	24.5	559	25	15
145	140	15	144	14.8	10	600	595	24.5	599	25	15
150	145	15	149	14.8	10	630	625	24.5	629	25	15
155	150	15	154	14.8	10	650	645	24.5	649	25	15
160	155	25	159	24.5	10	700	695	24.5	649	25	15
170	165	15	169	14.8	10	950	945	24.5	949	25	15
170	165	33.0	169	32.5	10	1000	995	24.5	999	25	15



Guide Strip

FOLON-A



de8	D H9	D1 H9	H	L	b	aD10
28	34	31	19	17	6	6.5
30	36	33	19	17	6	6.5
32	38	35	19	17	6	6.5
35	41	38	19	17	6	6.5
36	42	39	19	17	6	6.5
40	46	43	19	17	6	6.5
42	48	45	19	17	6	6.5
45	51	48	19	17	6	6.5
50	56	53	19	17	6	6.5
55	61	58	19	17	6	6.5
56	62	59	19	17	6	6.5
60	70	65	24	21	7	8.5
63	73	68	24	21	7	8.5
65	75	70	24	21	7	8.5
70	80	75	24	21	7	8.5
72	82	77	24	21	7	8.5
75	85	80	24	21	7	8.5
80	90	85	24	21	7	8.5
85	95	90	19	21	7	8.5
90	100	95	24	21	7	8.5
95	105	100	24	21	7	8.5
100	106	103	24	17	6	8.5
100	110	105	24	21	7	8.5
105	115	110	24	21	7	8.5
110	120	115	24	21	7	8.5
115	125	120	24	21	7	8.5

Guide Strip



FOLON-A

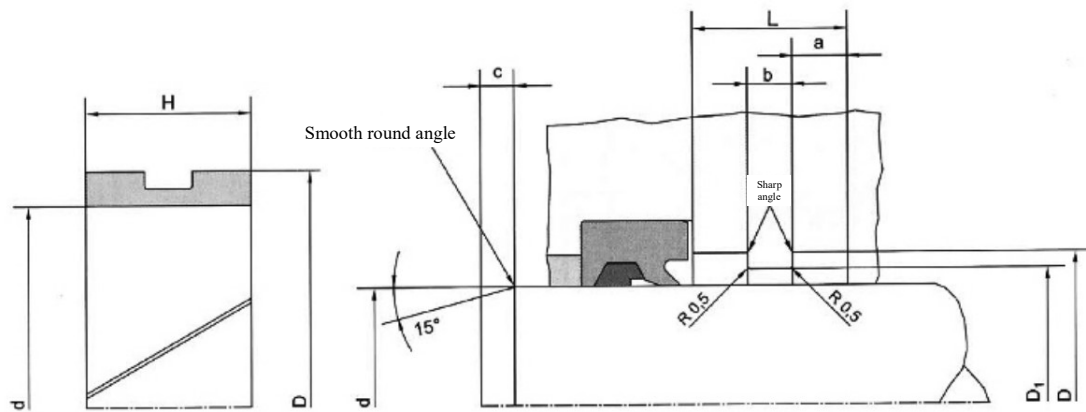
de8	D H9	D1 H9	H	L	b	aD10
120	130	125	24	21	7	8.5
125	135	130	24	21	7	8.5
130	140	135	24	21	7	8.5
140	150	145	24	21	7	8.5
150	162	156	35	31	15	10
160	172	166	35	31	15	10
165	177	171	35	31	15	10
170	182	176	35	31	15	10
180	192	186	35	31	15	10
190	202	196	35	31	15	10
200	212	206	35	31	15	10
220	232	226	35	31	15	10
225	237	231	35	31	15	10
240	252	246	35	31	15	10
250	262	256	35	31	15	10
260	272	266	35	31	15	10
280	292	286	35	31	15	10
290	302	296	35	31	15	10
300	312	306	35	31	15	10
320	332	326	35	31	15	10
350	362	356	35	31	15	10
360	372	366	35	31	15	10
380	392	386	35	31	15	10
400	412	406	35	31	15	10
415	427	421	35	31	15	10
420	432	426	35	31	15	10
425	437	431	35	31	15	10
450	462	456	35	31	15	10
480	492	486	35	31	15	10
500	512	506	35	31	15	10
560	572	566	35	31	15	10
600	612	606	35	31	15	10
630	642	636	35	31	15	10

The above sizes are commonly used specifications, and other specifications are available for order. Larger diameters are also available.



Guide Strip

FOLON.A



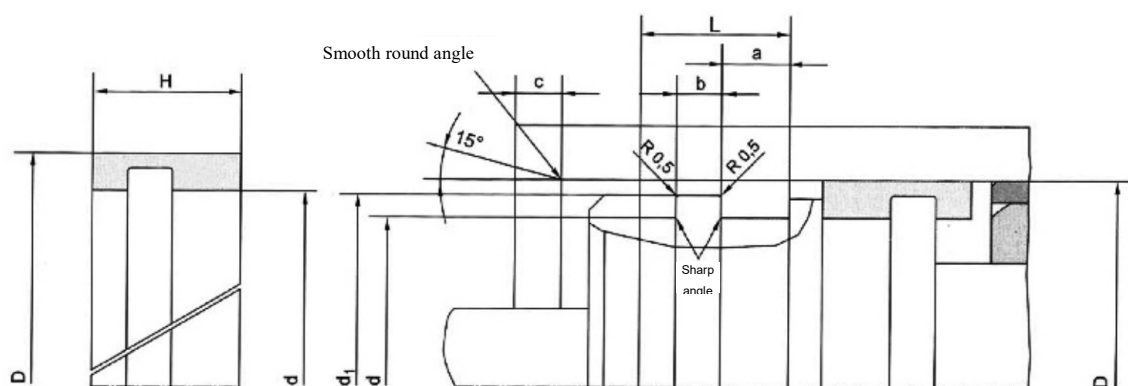
de8	D H9	D1 H9	H/L	b	aD10
18	24	21	19	6	6.5
20	26	23	19	6	6.5
22	28	25	19	6	6.5
25	31	28	19	6	6.5
28	34	31	19	6	6.5
30	36	33	19	6	6.5
32	38	35	19	6	6.5
35	41	38	19	6	6.5
36	42	39	19	6	6.5
40	46	43	19	6	6.5
42	49	45	19	6	6.5
45	51	48	19	6	6.5
50	56	53	19	6	6.5
55	61	58	19	6	6.5
56	62	59	19	6	6.5
60	70	65	24	7	8.5
63	73	68	24	7	8.5
65	75	70	24	7	8.5
70	80	75	24	7	8.5
72	82	77	24	7	8.5
75	85	80	24	7	8.5
80	90	85	24	7	8.5
83	93	88	24	7	8.5
85	95	90	24	7	8.5
90	100	95	24	7	8.5
95	105	100	24	7	8.5
96	106	101	24	7	8.5
100	106	103	19	7	6.5
100	110	105	24	7	8.5
105	115	110	24	7	8.5
110	120	115	24	7	8.5
115	125	120	24	7	8.5
125	130	130	24	7	8.5

de8	D H9	D1 H9	H/L	b	aD10
130	140	135	24	7	8.5
140	150	145	24	7	8.5
150	162	156	35	15	10
155	167	161	35	15	10
160	170	165	24	7	8.5
160	172	166	35	15	10
165	177	171	35	15	10
167	177	172	24	7	8.5
170	182	176	35	15	10
180	190	185	24	7	8.5
180	192	186	35	15	10
190	202	196	35	15	10
200	212	206	35	15	10
220	232	226	35	15	10
225	237	231	35	15	10
240	252	246	35	15	10
250	262	256	35	15	10
260	272	266	35	15	10
280	292	286	35	15	10
290	302	296	35	15	10
300	310	305	24	7	8.5
300	312	306	35	15	10
320	332	326	35	15	10
350	362	356	35	15	10
360	372	366	35	15	10
380	392	386	35	15	10
400	412	406	35	15	10
415	427	421	35	15	10
420	432	426	35	15	10
425	437	431	35	15	10
450	462	456	35	15	10
480	492	486	35	15	10
630	642	636	35	15	10

Guide Strip



FOLON-A



de8	D H9	D1 H9	H/L	b	aD10
40	32	36	12	3.5	4.7
45	37	41	12	3	4.7
50	42	46	12	3	6.2
55	47	51	12	3	6.2
56	48	52	12	3	6.2
57	49	53	12	3	6.2
63	55	59	12	3	6.2
65	57	61	12	3	6.2
70	62	66	12	3	6.2
75	67	71	12	3	6.2
80	72	76	10.6	3	3.8
80	72	76	14	3	7.2
85	77	81	14	3	7.2
90	82	86	14	3	7.2
95	87	91	14	3	7.2
100	92	96	10.6	3	3.8
100	92	96	14	3	7.2
105	97	101	14	3	7.2
110	102	106	14	3	7.2
115	107	111	14	3	7.2
120	112	116	10.6	3	3.8
120	112	116	14	3	7.2
125	115	121	17.5	4	9.2
130	120	126	12.6	4	9.2
130	120	126	17.5	4	9.2
134.6	124.6	129.6	17.5	4	9.2
134.6	124.6	129.6	24	7	8.5
135	125	131	17.5	4	9.2
140	130	136	17.5	4	9.2
145	135	141	17.5	4	9.2
150	140	146	17.5	4	9.2



Guide Strip

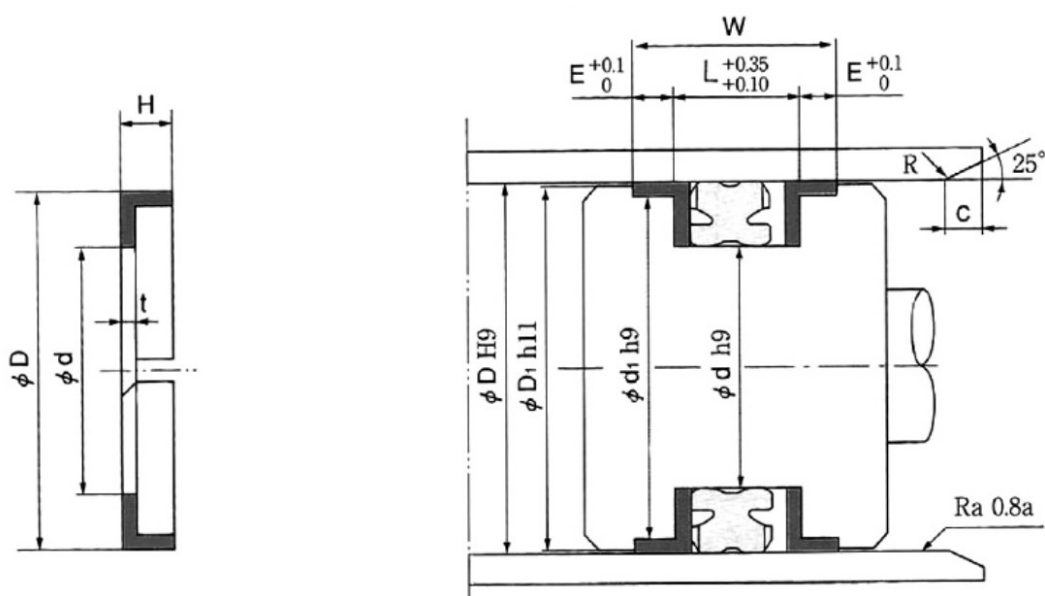
FOLON-A

dH8	Df8	d1f8	H/L	b	aD10
155	145	151	17.5	4	9.2
160	150	156	17.5	4	9.2
170	160	166	20	6	9.2
180	170	176	20	6	9.2
190	180	186	20	4.5	11.7
200	190	196	20	4.5	11.7
210	200	206	25	8	11.7
220	210	216	25	8	11.7
225	215	220	24	7	8.5
225	215	221	25	8	11.7
230	220	226	25	8	11.7
235	225	231	33	15	11.7
240	230	236	33	15	11.7
250	240	246	33	15	11.7
265	255	261	33	15	11.7
275	265	271	33	15	11.7
280	270	276	33	15	11.7
290	280	286	33	15	11.7
300	290	296	33	15	11.7
310	298	304	35	8.5	13.25
320	308	314	35	8.5	13.25
340	328	334	35	8.5	13.25
350	338	344	35	8.5	13.25
360	348	354	35	8.5	13.25
380	368	374	35	8.5	13.25
400	388	394	35	8.5	13.25
420	408	414	35	8.5	13.25
425	413	419	35	8.5	13.25
450	438	444	35	8.5	13.25
480	468	474	35	8.5	13.25
500	488	494	35	8.5	13.25
560	548	554	35	8.5	13.25
600	588	594	35	8.5	13.25
630	618	624	35	8.5	13.25
650	638	644	35	8.5	13.25
700	688	694	35	8.5	13.25
750	738	744	35	8.5	13.25
950	938	944	35	8.5	13.25
1000	988	994	35	8.5	13.25

Guide Strip



FOLON-A



D	d	H	t	D1	d1	L	E	W	C
40	30	55	1.5	39.0	37	10.0	4.0	18.0	2.5
45	35	55	1.5	44.0	42	10.0	4.0	18.0	2.5
6	40	55	1.5	49.0	47	10.0	4.0	18.0	2.5
55	45	55	1.5	54.0	52	10.0	4.0	18.0	2.5
60	50	55	1.5	59.0	57	10.0	4.0	18.0	2.5
63	53	5.5	1.5	62.0	60	10.0	4.0	18.0	2.5
65	55	7.0	2.0	63.5	61	11.0	5.0	21.0	2.5
70	60	7.0	2.0	68.5	66	11.0	5.0	21.0	2.5
75	65	7.0	2.0	73.5	71	11.0	5.0	21.0	2.5
80	67	7.0	2.0	78.5	76	12.5	5.0	22.5	3.0
85	72	7.0	2.0	83.5	81	12.5	5.0	22.5	3.0
90	77	7.0	2.0	88.5	86	12.5	5.0	22.5	3.0
100	85	7.0	2.0	98.5	96	14.0	5.0	24.0	4.0

The above sizes are commonly used specifications, and other specifications are available for order.

Postscript

Shanghai Folon Fluid Control Co., Ltd. is a professional supplier of imported seals for many years. The company sticks to the principle of "honest service and quality-oriented" and has gained the trust of customers. Through the cooperation with many foreign seal companies, we have expanded the specifications and varieties of products. To facilitate the selection of seals, we have compiled this manual for customers' reference. This manual is liable to mistakes or omissions due to the lack of time.

Please understand that this manual is for reference only.

The company reserves the right to interpret this manual.

We welcome suggestions and criticisms.