

活塞密封件

Piston seal catalogue

Company Profile

Established in Xiamen in 2001, Xiamen TuoYan Seals Technology Co., Ltd. specializes in the research and development of sealing solutions and sealing components for fluid power systems. The company integrates research and development, production, and sales, and has complete production and testing equipment, including CNC machining centers, CNC lathes, large hydraulic presses, computer-controlled sintering furnaces, flat vulcanizing machines, precision injection molding machines, fully automatic fiber impregnation machines, and laminating machines.

Our company is certified with ISO 9001:2015, and we continually invest in product development and innovation to provide customers with high-quality products and exceptional sealing solutions. We have received high praise from customers both domestically and internationally. We have established three subsidiary companies, each specializing in producing premium sealing components in different sealing domains.

Xiamen TYS Seals Technology Co.,Ltd.

Focuses on the production and development of rubber, polyurethane, and polytetrafluoroethylene (PTFE) seals.

Add. : No.9-5-1, Xingmei Road, Jimei District, Xiamen,Fujian China.361022

Tel : 0592-6192018 Fax:0592-6192019

Email:tys@tysseals.com

TYS Seals Technology(WuPing) Co.,Ltd.

Specializes in the production and development of composite material products, including phenolic fabric wear rings, bushings, and bearing cages.

Add. : No.117, Huan Cheng South Road, Wuping County,Longyan City,Fujian China.

Tel : 0597-4802088

Xiamen JingHengYan Sealing Technology Co.,Ltd.

Focuses on the production and development of metal end-face seals, specifically floating seal products.

Add. : No.37-4-1,Xinyuan Road, Jimei District,Xiamen,Fujian China.










Tel : 0592-6192029

TYS Seals Technology (Guangzhou) Co.,Ltd.

Sales Center

Add. : 11-1237 Zhuji international machinery center , No.36 Zhuji road Tianhe district
Guangzhou

Tel : 020-32380255 Fax:020-3238-0377

Code	Section	Fucntion	Limited Condition			Page
			Pressure (MPa)	Speed (m/s)	Temp. (°C)	
SPGO		Piston Seals (Double Acting)	40	5	-45°C +200°C	1 3
SPG		Piston Seals (Double Acting)	35	1.5	-30°C +200°C	4
SPGW		Piston Seals (Double Acting)	50	1.5	-45°C +200°C	5 6
GSD		Piston Seals (Single Acting)	40	5	-30°C +200°C	7 8
DAQ		Piston Seals (Double Acting)	40	2	-30°C +200°C	9 10
AQ5		Piston Seals (Double Acting)	40	2	-30°C +200°C	11 12
DAS		Piston Seals (Double Acting)	40	0.5	-30°C +100°C	13 14
PG		Piston Seals (Double Acting)	35	0.5	-30°C +100°C	15 16
MPS		Piston Seals (Single Acting)	40	0.5	-45°C +120°C	17 20

Sealing Component Storage Guidelines and Recommended Shelf Life

Storage Recommendations :

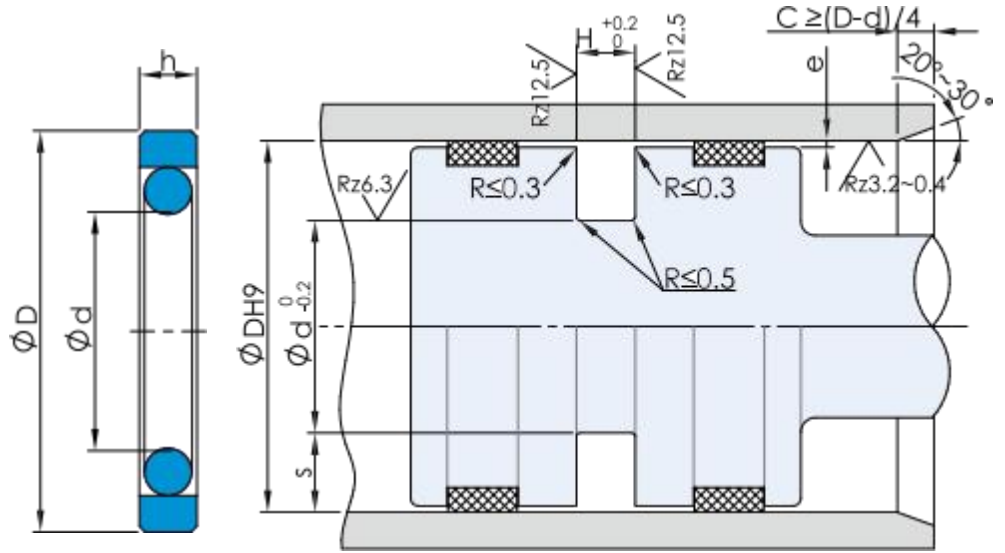
Stock Control	Follow the First- In-First-Out (FIFO) principle
Optimal Temp.	Seals should be kept away from heat sources like direct sunlight and heat-emitting objects . The maximum storage temperature is +32°C. Low temperatures won't cause permanent damage to the seals but can make them brittle, leading to potential breakage if mishandled. Generally, the storage temperature for seals should not go below +10°C, and they should be brought to room temperature before installation.
Avoid strong light	Surfaces should be shielded from direct sunlight and artificial light sources to prevent exposure to ultraviolet radiation.
Moisture control	Special care should be taken during storage, and the ambient humidity should not exceed 65%. Some specific polyurethane seals that are sensitive to moisture should be stored in sealed containers
Keep away from oxygen and ozone	Ozone and oxygen are harmful to seals . Seals should be stored in sealed containers . Any equipment that generates sparks should be kept away from the storage containers .
Keep away from	For seals to have a longer storage life, they should be kept away from contaminants . The warehouse should be kept clean.
Avoid distortion	Large seals should be stored flat instead of hanging, as prolonged hanging can cause distortion. Seals should not be placed on hooks , nails , or metal plates .

Recommended Shelf Life :

化合物名称	Compounds	Shelf Life
Aflas [®]	FEPM	7 Years
乙丙橡胶	EP,EPR, EPDM	7 Years
氟橡胶	FKM	7 Years
丁腈橡胶	NBR,HNBR, XNBR	7 Years
聚氨酯	AU or EU	10 Years
聚酯弹性体	TPCE	10 Years
聚四氟乙烯	PTFE	Unlimited



SPGO 活塞密封/Piston seals



Standard materials:

- Sealing ring: filled with polytetrafluoroethylene F-PTFE
- O-ring: nitrile rubber NBR or fluororubber FKM

Features:

- Good sealing performance in both dynamic and static conditions
- Allows for larger extrusion gaps, reducing processing costs depending on the application
- Can be safely used in media with contaminants due to the larger extrusion gaps
- Low friction and no crawling phenomenon
- Simple groove design, suitable for integral pistons
- Strong adaptability to working conditions due to the availability of various materials
- If you have specific requirements (pressure, temperature, speed, special media, etc.), please contact our consulting service department for recommendations on suitable materials.

Technical Specification:

- Pressure: 40 MPa
- Speed: 5 m/s
- Temperature: -45°C to +200°C, depending on the O-ring material
- Media: Mineral hydraulic oil, fire-resistant hydraulic oil, environmentally friendly hydraulic oil, water, air, and other media, depending on the O-ring material.

Clearance: The maximum allowable radial clearance (e_{max}) varies with the working pressure and functional diameter, as indicated in the table below.

Applications:

Hydraulic system \ advance and return movement, particularly in heavy-duty, bi-directional piston sealing scenarios under high pressure, low pressure, and high-frequency conditions. Suitable for both long and short strokes and can accommodate larger piston clearances in situations involving a wide range of fluids and high temperatures. Examples of their applications include injection molding machines, bulldozers, agricultural machinery, presses, and other machine tools.

Comply with the ISO 7425/1, GB/T1542.1-94, and GB/T15242.3-94 standards.

Standard Usage	Bore Diameter D f8/h9		Groove Diameter d h9	Groove Width H	Groove Corner Radius R	Radial Clearance e max			O Ring Section d0
	Light-duty	Heavy-duty				10 Mpa	20 Mpa	40Mpa	
8 - 14.9	15-39.9	-	D-4.9	2.2	0.4	0.40	0.30	0.20	1.78
15 - 39.9	40 - 79.9	-	D-7.5	3.2	0.6	0.60	0.50	0.30	2.62
40 - 79.9	80 - 132.9	-	D-11.0	4.2	1	0.70	0.50	0.30	3.53
80 - 132.9	133 - 329.9	15 - 39.9	D-15.5	6.3	1.3	0.80	0.60	0.40	5.33
133 - 329.9	330 - 669.9	80 - 132.9	D-21.0	8.1	1.8	0.80	0.60	0.40	7.00
330 - 669.9	670 - 999.9	133 - 329.9	D-24.5	8.1	1.8	0.90	0.70	0.50	7.00
670 - 999.9	-	330 - 669.9	D-28.0	9.5	2.5	1.00	0.80	0.60	8.40
≥ 1000	≥ 1000	≥ 700	D-38.0	13.8	3.0	1.20	0.90	0.70	12.00



Specification

Name	Bore Dia.	Groove Dia.	Width
	D	d	H
SPGO	8	3.1	2.2
SPGO	10	5.1	2.2
SPGO	12	7.1	2.2
SPGO	14	9.1	2.2
SPGO	16	11.1	2.2
SPGO	17	12.1	2.2
SPGO	18	13.1	2.2
SPGO	19	14.1	2.2
SPGO	20	15.1	2.2
SPGO	21	16.1	2.2
SPGO	22	17.1	2.2
SPGO	24	19.1	2.2
SPGO	15	7.5	3.2
SPGO	16	8.5	3.2
SPGO	18	10.5	3.2
SPGO	20	12.5	3.2
SPGO	21	13.5	3.2
SPGO	22	14.5	3.2
SPGO	24	16.5	3.2
SPGO	25	17.5	3.2
SPGO	28	20.5	3.2
SPGO	30	22.5	3.2
SPGO	32	24.5	3.2
SPGO	35	27.5	3.2
SPGO	36	28.5	3.2
SPGO	38	30.5	3.2
SPGO	40	29	4.2
SPGO	42	31	4.2
SPGO	45	34	4.2
SPGO	48	37	4.2
SPGO	50	39	4.2
SPGO	52	41	4.2
SPGO	55	44	4.2
SPGO	60	49	4.2
SPGO	63	52	4.2
SPGO	65	54	4.2
SPGO	70	59	4.2
SPGO	75	64	4.2
SPGO	80	69	4.2
SPGO	50	34.5	6.3
SPGO	55	39.5	6.3
SPGO	60	44.5	6.3

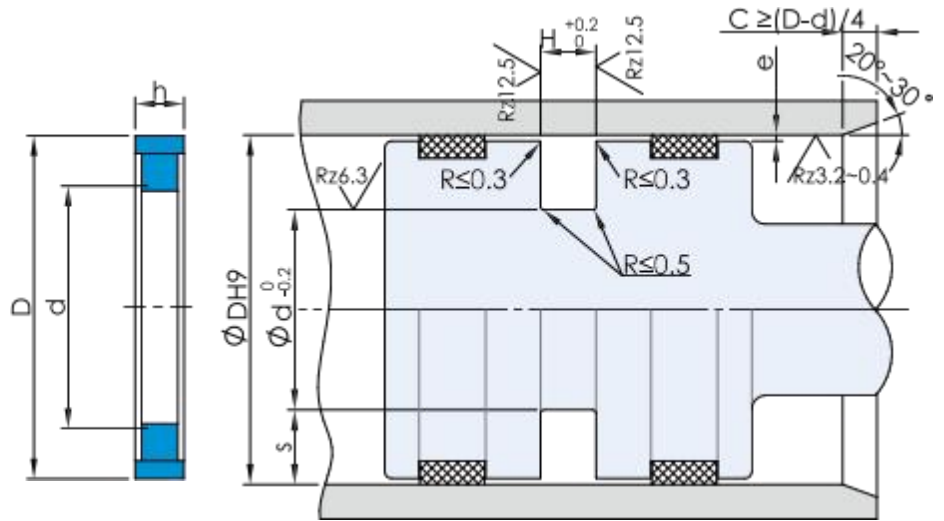
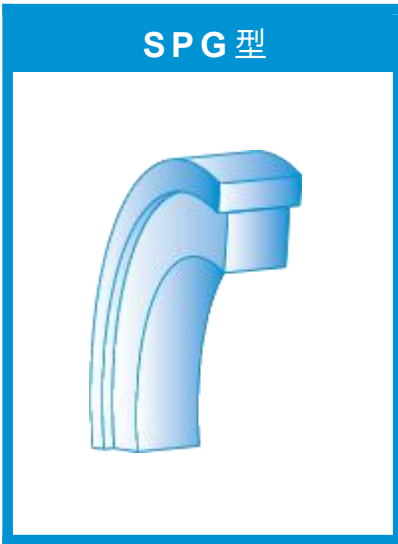
Name	Bore Dia.	Groove Dia.	Width
	D	d	H
SPGO	63	47.5	6.3
SPGO	65	49.5	6.3
SPGO	68	52.5	6.3
SPGO	70	54.5	6.3
SPGO	75	59.5	6.3
SPGO	80	64.5	6.3
SPGO	85	69.5	6.3
SPGO	90	74.5	6.3
SPGO	95	79.5	6.3
SPGO	100	84.5	6.3
SPGO	105	89.5	6.3
SPGO	110	94.5	6.3
SPGO	115	99.5	6.3
SPGO	120	104.5	6.3
SPGO	125	109.5	6.3
SPGO	130	114.5	6.3
SPGO	135	119.5	6.3
SPGO	140	124.5	6.3
SPGO	70	49	8.1
SPGO	75	54	8.1
SPGO	80	59	8.1
SPGO	85	64	8.1
SPGO	90	69	8.1
SPGO	95	74	8.1
SPGO	100	79	8.1
SPGO	105	84	8.1
SPGO	110	89	8.1
SPGO	115	94	8.1
SPGO	120	99	8.1
SPGO	125	104	8.1
SPGO	130	109	8.1
SPGO	135	114	8.1
SPGO	140	119	8.1
SPGO	145	124	8.1
SPGO	150	129	8.1
SPGO	155	134	8.1
SPGO	160	139	8.1
SPGO	165	144	8.1
SPGO	170	149	8.1
SPGO	175	154	8.1
SPGO	180	159	8.1
SPGO	185	164	8.1



SPGO 活塞密封/Piston seals

Name	Bore Dia.	Groove Dia.	Width
	D	d	H
SPGO	190	169	8.1
SPGO	195	174	8.1
SPGO	200	179	8.1
SPGO	205	184	8.1
SPGO	210	189	8.1
SPGO	215	194	8.1
SPGO	220	199	8.1
SPGO	225	204	8.1
SPGO	230	209	8.1
SPGO	240	219	8.1
SPGO	250	229	8.1
SPGO	260	239	8.1
SPGO	270	249	8.1
SPGO	280	259	8.1
SPGO	290	269	8.1
SPGO	300	279	8.1
SPGO	310	289	8.1
SPGO	320	299	8.1
SPGO	300	275.5	8.1
SPGO	310	285.5	8.1
SPGO	320	295.5	8.1
SPGO	330	305.5	8.1
SPGO	340	315.5	8.1
SPGO	350	325.5	8.1
SPGO	360	335.5	8.1
SPGO	370	345.5	8.1
SPGO	380	355.5	8.1
SPGO	390	365.5	8.1
SPGO	400	375.5	8.1
SPGO	410	385.5	8.1
SPGO	420	395.5	8.1
SPGO	430	405.5	8.1
SPGO	440	415.5	8.1
SPGO	450	425.5	8.1
SPGO	460	435.5	8.1
SPGO	470	445.5	8.1
SPGO	480	455.5	8.1
SPGO	490	465.5	8.1

Name	Bore Dia.	Groove Dia.	Width
	D	d	H
SPGO	500	475.5	8.1
SPGO	510	485.5	8.1
SPGO	520	495.5	8.1
SPGO	530	505.5	8.1
SPGO	540	515.5	8.1
SPGO	550	525.5	8.1
SPGO	560	535.5	8.1
SPGO	570	545.5	8.1
SPGO	580	555.5	8.1
SPGO	590	565.5	8.1
SPGO	600	575.5	8.1
SPGO	610	585.5	8.1
SPGO	620	595.5	8.1
SPGO	630	605.5	8.1
SPGO	640	615.5	8.1
SPGO	650	625.5	8.1
SPGO	660	635.5	8.1
SPGO	670	642	9.5
SPGO	680	652	9.5
SPGO	690	662	9.5
SPGO	700	672	9.5
SPGO	710	682	9.5
SPGO	720	692	9.5
SPGO	740	712	9.5
SPGO	750	722	9.5
SPGO	800	772	9.5
SPGO	900	872	9.5
SPGO	1000	962	13.8
SPGO	1050	1012	13.8
SPGO	1065	1027	13.8
SPGO	1070	1032	13.8
SPGO	1100	1062	13.8
SPGO	1200	1162	13.8
SPGO	1230	1192	13.8
SPGO	1250	1212	13.8
SPGO	1500	1462	13.8
SPGO	1800	1762	13.8
SPGO	2000	1962	13.8



Design Description:

The sliding material used is filled with polytetrafluoroethylene (PTFE). This seal exhibits very low friction resistance, eliminates crawling, and ensures high wear resistance. Due to its bi-directional sealing capability, a single seal eliminates the need for installation space. The elastomeric element is designed in a square shape, which enhances the stability of the seal. This is a standard combination seal widely used in various applications, particularly on pistons.

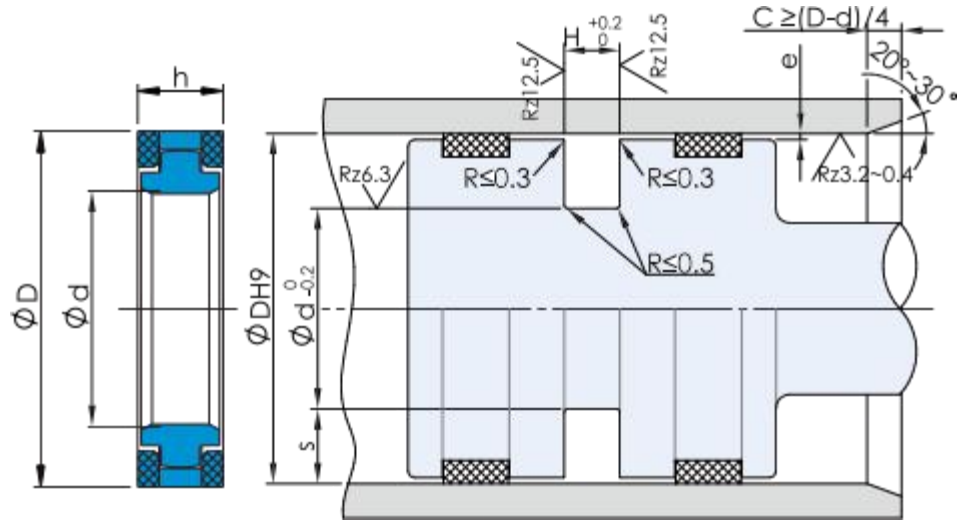
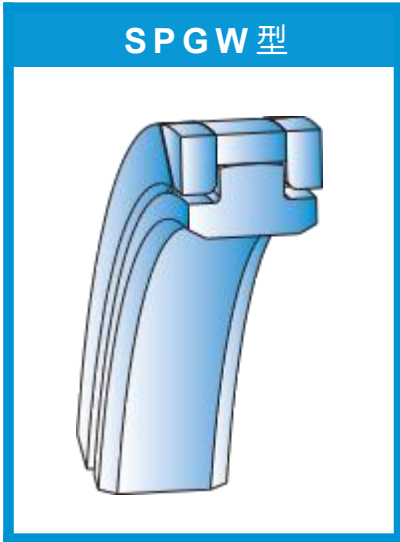
Technical Specification :

- Working Pressure: 0-35MPa
- Speed : 1.5M/S
- Temperature : -30°C~+200°C (depending on the elastomeric material)

Specification:

Name	D	d	h	H
SPG	40	30	4.3	4.5
SPG	45	35		
SPG	50	40		
SPG	55	45		
SPG	56	46		
SPG	60	50		
SPG	65	55		
SPG	70	60		
SPG	80	70		
SPG	90	80		
SPG	100	90		
SPG	63	48	7.3	7.5
SPG	65	50		
SPG	70	55		
SPG	75	60		
SPG	80	65		
SPG	85	70		
SPG	90	75		
SPG	95	80		
SPG	100	85		
SPG	105	90		

Name	D	d	h	H		
SPG	108	92	7.3	7.5		
SPG	110	94				
SPG	112	96				
SPG	115	99				
SPG	120	104				
SPG	125	109				
SPG	130	114				
SPG	135	119				
SPG	140	124				
SPG	145	129				
SPG	150	134				
SPG	155	139				
SPG	160	144				
SPG	170	148			10.8	11
SPG	175	153				
SPG	180	158				
SPG	190	168				
SPG	200	178				
SPG	220	198				
SPG	225	203				
SPG	270	248				



Standard Materials:

Sealing ring: filled with polytetrafluoroethylene (F-PTFE)

Elasticity: nitrile rubber (NBR)

Backup ring: modified polyoxymethylene (POM) or modified nylon (PA)

Features:

- Excellent sealing performance in both dynamic and static conditions
- Allows for larger extrusion gaps, reducing processing costs depending on the application
- Can be safely used in media with contaminants due to the larger extrusion gaps
- Low friction and no crawling phenomenon
- Simple groove design, suitable for integral pistons
- If there are special requirements (pressure, temperature, speed, special media, etc.), please contact our consulting service department for recommendations on suitable materials.

Technical Specification :

- Pressure: 50MPa
- Speed : 1.5M/S
- Temperature : $-45^\circ\text{C} \sim +120^\circ\text{C}$
- Medium : Mineral hydraulic oil, fire-resistant hydraulic oil, environmentally friendly hydraulic oil, water, air, and other media, depending on the seal material

Applications:

These seals excel in hydraulic systems and reciprocating motion applications, particularly in heavy-duty, bi-directional piston sealing scenarios under high pressure, low pressure, and high-frequency conditions. They are suitable for both long and short strokes and can accommodate larger piston clearances in situations involving a wide range of fluids and high temperatures. They are primarily used for piston sealing in heavy-duty or construction machinery, offering excellent leak control, extrusion resistance, and durability, such as in excavators and heavy hydraulic cylinders.

Bore Diam.	Groove Diam.	Groove Width	Seal's Width	Radial Clearance Max.e	
D (H9)	d(h9)	H+0.2	h	32Mpa	50Mpa
50-60	D-14	9.0	8.5	0.54	0.39
63-95	D-15	11.0	10.5	0.80	0.42
100-120	D-15	12.5	12.0	0.80	0.42
125-240	D-23	16.0	15.5	0.79	0.44
≥ 250	D-28	17.5	17.0	0.83	0.47



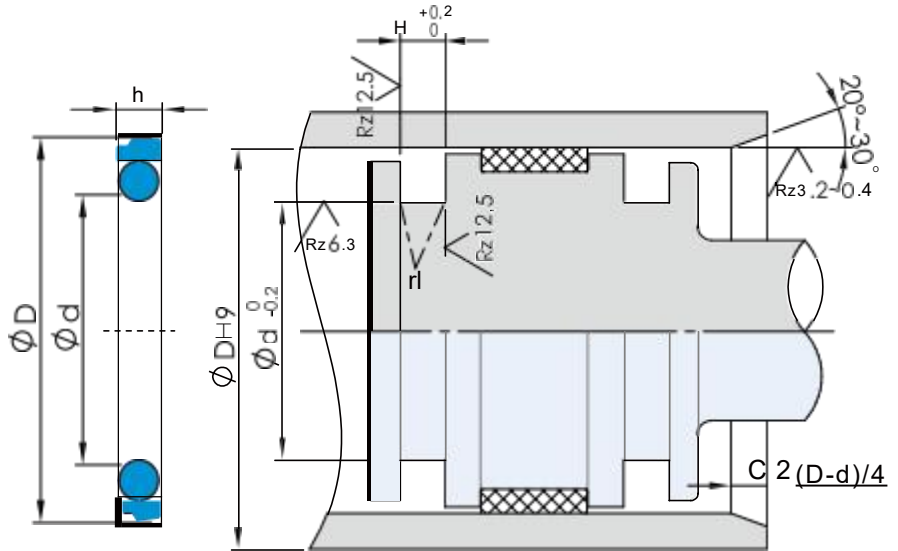
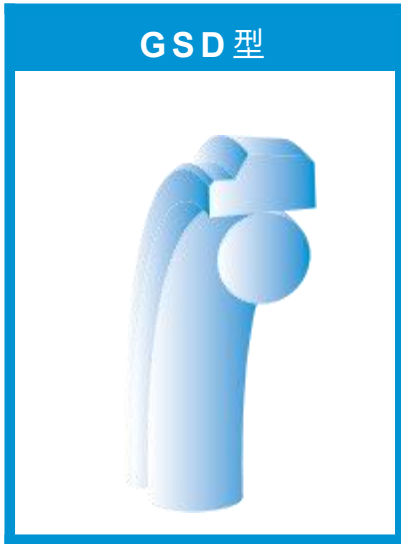
Specification:

Name	Nominal Dimension			H
	D	d	h	
SPGW-50	50	36	8.5	9.0
SPGW-55	55	41	8.5	9.0
SPGW-60	60	46	8.5	9.0
SPGW-63	63	48	10.5	11.0
SPGW-65	65	50	10.5	11.0
SPGW-70	70	55	10.5	11.0
SPGW-75	75	60	10.5	11.0
SPGW-80	80	65	10.5	11.0
SPGW-85	85	70	10.5	11.0
SPGW-90	90	75	10.5	11.0
SPGW-95	95	80	10.5	11.0
SPGW-100	100	85	12.0	12.5
SPGW-105	105	90	12.0	12.5
SPGW-110	110	95	12.0	12.5
SPGW-115	115	100	12.0	12.5
SPGW-120	120	105	12.0	12.5
SPGW-125	125	102	15.5	16.0
SPGW-130	130	107	15.5	16.0
SPGW-135	135	112	15.5	16.0
SPGW-140	140	117	15.5	16.0
SPGW-145	145	122	15.5	16.0
SPGW-150	150	127	15.5	16.0
SPGW-155	155	132	15.5	16.0
SPGW-160	160	137	15.5	16.0
SPGW-165	165	142	15.5	16.0
SPGW-170	170	147	15.5	16.0
SPGW-175	175	152	15.5	16.0
SPGW-180	180	157	15.5	16.0
SPGW-185	185	162	15.5	16.0

Name	Nominal Dimension			H
	D	d	h	
SPGW-190	190	167	15.5	16.0
SPGW-195	195	172	15.5	16.0
SPGW-200	200	177	15.5	16.0
SPGW-205	205	182	15.5	16.0
SPGW-210	210	187	15.5	16.0
SPGW-215	215	192	15.5	16.0
SPGW-220	220	197	15.5	16.0
SPGW-225	225	202	15.5	16.0
SPGW-230	230	207	15.5	16.0
SPGW-240	240	217	15.5	16.0
SPGW-250	250	222	17.0	17.5
SPGW-260	260	232	17.0	17.5
SPGW-270	270	242	17.0	17.5
SPGW-280	280	252	17.0	17.5
SPGW-290	290	262	17.0	17.5
SPGW-300	300	272	17.0	17.5
SPGW-310	310	282	17.0	17.5
SPGW-320	320	292	17.0	17.5
Inch Dimension				
SPGW	3.00	2.52	0.559	0.579
SPGW	3.25	2.77	0.559	0.579
SPGW	3.50	3.02	0.559	0.579
SPGW	4.00	3.52	0.559	0.579
SPGW	4.25	3.77	0.559	0.579
SPGW	4.50	4.02	0.559	0.579
SPGW	4.75	4.27	0.559	0.579
SPGW	5.00	4.52	0.559	0.579
SPGW	5.25	4.77	0.559	0.579
SPGW	5.50	5.02	0.559	0.579



GSD 活塞密封/Piston seals



Design Description:

The GSD piston seal is suitable for use as a unidirectional sealing component due to its excellent sealing performance, making it ideal for applications that require precise positioning and oil-free lubrication. The contact area of the seal is small, resulting in low friction.

Applications :

It is used for unidirectional pistons in hydraulic components, such as injection molding machines, machine tools, and presses. It is particularly recommended to be used as the first seal on the pressure oil side of piston accumulators, in conjunction with DAQ seals or AQ5 seals.

Technical Specification :

- Pressure: 40 MPa
- Speed: 5 m/s
- Temperature: -30°C to +200°C (depending on the elastomeric material)
- Media: All common hydraulic oils, including bio-oils and gases.
- Radial clearance: The maximum allowable radial clearance (emax) depends on the working pressure and functional diameter.

Materials :

Sealing ring: filled polytetrafluoroethylene (F-PTFE)

O-ring: nitrile rubber (NBR) or fluoroelastomer (FKM)

Installation Dimension:

Bore Diameter(D)			Groove Dia.	Groove Width	Radius	Radial Clearance e max			O Ring Section
Standard Usage	Light-duty	Heavy-duty	d h9	H+0.2	r ₁	10 Mpa	20 Mpa	40Mpa	d0
8-16.9	17-26.9	- -	D-4.9	2.2	0.4	0.30	0.20	0.15	1.78
17-26.9	27-59.9	- -	D-7.3	3.2	0.6	0.40	0.25	0.15	2.62
27-59.9	60-199.9	17-26.9	D-10.7	4.2	1	0.50	0.30	0.20	3.53
60-199.9	200-255.9	27-59.9	D-15.1	6.3	1.3	0.70	0.40	0.25	5.33
200-255.9	256-669.9	60-199.9	D-20.5	8.1	1.8	0.70	0.60	0.35	7.00
256-669.9	670-999.9	200-255.9	D-24	8.1	1.8	0.90	0.70	0.40	7.00
670-999.9	≥1000	256-669.9	D-27.3	9.5	2.5	1.00	0.80	0.50	8.40
≥1000	- -	670-999.9	D-38.0	13.8	3.0	1.20	0.90	0.60	12.00



Specification:

Name	D	d	H
GSD	8	3.1	2.2
GSD	10	5.1	2.2
GSD	12	7.1	2.2
GSD	14	9.1	2.2
GSD	16	11.1	2.2
GSD	17	9.7	3.2
GSD	18	10.7	3.2
GSD	19	11.7	3.2
GSD	20	12.7	3.2
GSD	15	7.7	3.2
GSD	16	8.7	3.2
GSD	18	10.7	3.2
GSD	20	12.7	3.2
GSD	21	13.7	3.2
GSD	22	14.7	3.2
GSD	24	16.7	3.2
GSD	25	17.7	3.2
GSD	28	17.3	4.2
GSD	30	19.3	4.2
GSD	40	29.3	4.2
GSD	42	31.3	4.2
GSD	45	34.3	4.2
GSD	48	37.3	4.2
GSD	50	39.3	4.2
GSD	52	41.3	4.2
GSD	55	44.3	4.2
GSD	60	44.9	6.3
GSD	63	47.9	6.3
GSD	65	49.9	6.3
GSD	70	54.9	6.3
GSD	75	59.9	6.3
GSD	80	64.9	6.3
GSD	50	34.9	6.3
GSD	55	39.9	6.3
GSD	60	44.9	6.3
GSD	63	47.9	6.3
GSD	65	49.9	6.3
GSD	68	52.9	6.3
GSD	70	54.9	6.3
GSD	75	59.9	6.3
GSD	80	64.9	6.3
GSD	85	69.9	6.3
GSD	90	74.9	6.3
GSD	95	79.9	6.3
GSD	100	84.9	6.3

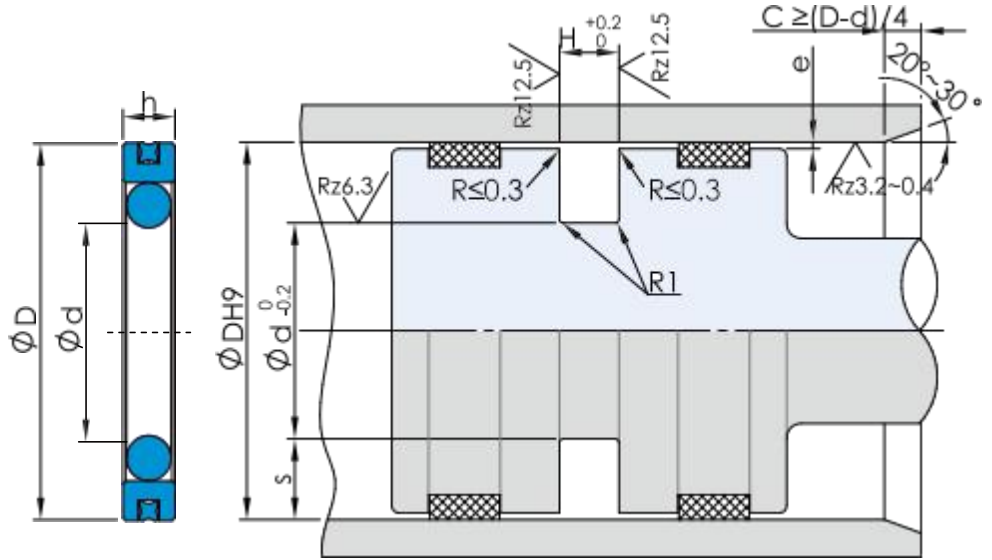
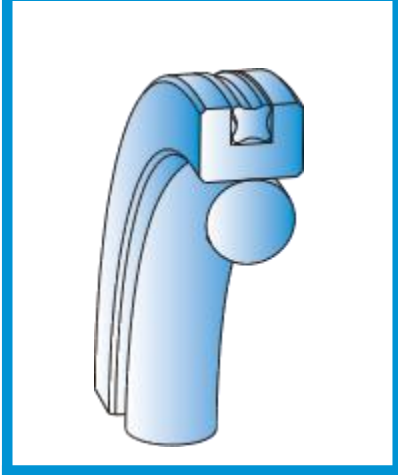
Name	D	d	H
GSD	105	89.9	6.3
GSD	110	94.9	6.3
GSD	120	104.9	6.3
GSD	70	49.5	8.1
GSD	75	54.5	8.1
GSD	80	59.5	8.1
GSD	85	64.5	8.1
GSD	90	69.5	8.1
GSD	95	74.5	8.1
GSD	100	79.5	8.1
GSD	105	84.5	8.1
GSD	110	89.5	8.1
GSD	115	94.5	8.1
GSD	120	99.5	8.1
GSD	125	104.5	8.1
GSD	130	109.5	8.1
GSD	135	114.5	8.1
GSD	140	119.5	8.1
GSD	145	124.5	8.1
GSD	150	129.5	8.1
GSD	155	134.5	8.1
GSD	160	139.5	8.1
GSD	165	144.5	8.1
GSD	170	149.5	8.1
GSD	175	154.5	8.1
GSD	180	159.5	8.1
GSD	185	164.5	8.1
GSD	190	169.5	8.1
GSD	195	174.5	8.1
GSD	200	179.5	8.1
GSD	205	184.5	8.1
GSD	210	189.5	8.1
GSD	215	194.5	8.1
GSD	220	199.5	8.1
GSD	225	204.5	8.1
GSD	230	209.5	8.1
GSD	240	219.5	8.1
GSD	250	229.5	8.1
GSD	260	236	8.1
GSD	270	246	8.1
GSD	280	256	8.1
GSD	290	266	8.1
GSD	300	276	8.1
GSD	310	286	8.1
GSD	320	296	8.1

若客户要求尺寸表内没有记录的尺寸，请另行与我司联系
If your required sizes are not listed in the table, please kindly contact us.



DAQ活塞密封/Piston seals

DAQ 型



Design Description:

The DAQ piston seal is a double-acting seal, with a PTFE sealing ring and a star-shaped ring responsible for dynamic sealing, while an O-ring provides static sealing.

Applications :

It is widely used in equipment such as machine tools, presses, accumulators, stabilizers, and heavy-duty suspension cylinders.

Installation Dimension:

Technical Specification :

- Pressure : 40MPa
- Speed : 2M/S
- Temperature : -30°C to $+200^\circ\text{C}$ (depending on the elastomeric material)
- Medium : All common hydraulic oils, including bio-oils and gases.
- Clearance: The maximum allowable radial clearance (e_{max}) depends on the working pressure and functional diameter.

Materials:

Sealing ring: filled polytetrafluoroethylene (F-PTFE)

O-ring: nitrile rubber (NBR) or fluoroelastomer (FKM)

Quard ring: nitrile rubber (NBR) or fluoroelastomer (FKM)

Bore Diameter(D)		Groove Dia.	Groove Width	Radius	Radial Clearance e max			O Ring Section	Quard Ring Section
Standard	Light-duty	d	H	R1	10Mpa	20Mpa	40Mpa	d0	W
15-39.9	40-79.9	D-11.0	4.2	1.0	0.25	0.15	0.10	3.53	1.78
40-79.9	80-132.9	D-15.5	6.3	1.3	0.30	0.20	0.15	5.33	1.78
80-132.9	133-252.9	D-21.0	8.1	1.8	0.30	0.20	0.15	7.00	2.62
133-252.9	- -	D-24.5	8.1	1.8	0.30	0.20	0.15	7.00	2.62
253-462.9	- -	D-28	9.5	2.5	0.45	0.30	0.25	8.40	3.53
463-700	- -	D-35	11.5	3.0	0.55	0.40	0.35	10.00	5.33



Specification:

Name	Bore Dia.	Groove Dia.	Groove Width
	D	d	H
DAQ	16	5	4.2
DAQ	18	7	4.2
DAQ	20	9	4.2
DAQ	22	11	4.2
DAQ	25	14	4.2
DAQ	28	17	4.2
DAQ	30	19	4.2
DAQ	32	21	4.2
DAQ	35	24	4.2
DAQ	40	24.5	6.3
DAQ	45	29.5	6.3
DAQ	50	34.5	6.3
DAQ	55	39.5	6.3
DAQ	60	44.5	6.3
DAQ	63	47.5	6.3
DAQ	65	49.5	6.3
DAQ	70	54.5	6.3
DAQ	75	59.5	6.3
DAQ	80	59	8.1
DAQ	85	64	8.1
DAQ	90	69	8.1
DAQ	95	74	8.1
DAQ	100	79	8.1
DAQ	105	84	8.1
DAQ	110	89	8.1

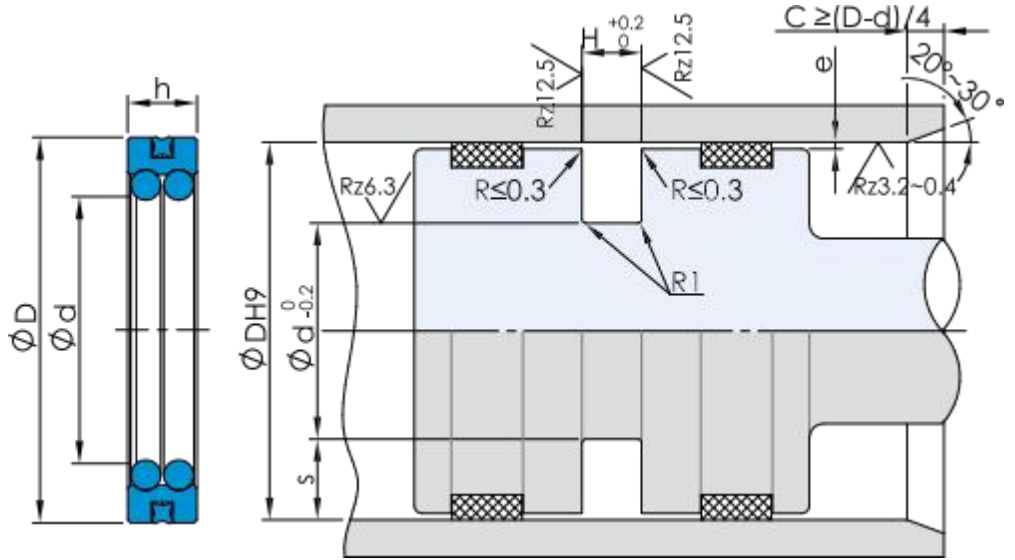
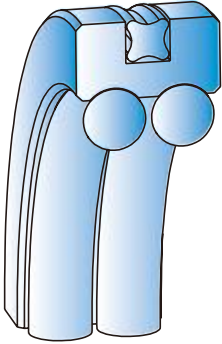
Name	Bore Dia.	Groove Dia.	Groove Width
	D	d	H
DAQ	115	94	8.1
DAQ	120	99	8.1
DAQ	125	104	8.1
DAQ	130	109	8.1
DAQ	135	110.5	8.1
DAQ	140	115.5	8.1
DAQ	150	125.5	8.1
DAQ	160	135.5	8.1
DAQ	170	145.5	8.1
DAQ	180	155.5	8.1
DAQ	190	165.5	8.1
DAQ	200	175.5	8.1
DAQ	210	185.5	8.1
DAQ	220	195.5	8.1
DAQ	230	205.5	8.1
DAQ	240	215.5	8.1
DAQ	250	225.5	8.1
DAQ	260	232	9.5
DAQ	270	242	9.5
DAQ	280	252	9.5
DAQ	290	262	9.5
DAQ	300	272	9.5
DAQ	310	282	9.5
DAQ	320	292	9.5

If your required sizes are not listed in the table, please kindly contact us.



AQ5活塞密封/Piston seals

AQ5型



Design Description:

The AQ5 piston seal features a star-shaped ring elastomer with limited contact points on the dynamic sealing surface, enhancing the sealing performance of the moving interface. It combines the low friction characteristics of the PTFE material and the sealing properties of the rubber elastomer, resulting in significantly reduced friction and minimized leakage.

Applications:

The AQ5 piston seal is suitable for applications with high speed, high pressure, and pressure retention requirements. It can be used as a sealing component for double-acting piston accumulators, positional control cylinders, clamping cylinders, etc. It is widely applied in equipment such as machine tools, presses, rolling mills, shoe machines, piston accumulators, and heavy-duty suspension cylinders. It is particularly recommended for heavy-load and large-diameter applications.

Technical Specification:

- Pressure: 40 MPa
- Speed: 2 m/s
- Temperature: -30°C to +200°C (depending on the elastomeric material)
- Medium: All common hydraulic oils, including bio-oils and gases.
- Clearance: The maximum allowable radial clearance (emax) depends on the working pressure and functional diameter.

Materials:

Sealing ring: filled polytetrafluoroethylene (F-PTFE)

O-ring: nitrile rubber (NBR) or fluoroelastomer (FKM)

Quard ring : nitrile rubber (NBR) or fluoroelastomer (FKM)

Installation Dimension :

Bore Dia. (D) Recomend Range	Groove Dia. d	Groove Width H	Radius R1	Radial Clearance e max			O Ring Section d0	Quad Ring Section W
				10Mpa	20Mpa	30Mpa		
40-79.9	D-10	6.3	0.6	0.30	0.20	0.15	2.62	1.78
80-132.9	D-13	8.3	1.0	0.40	0.30	0.15	3.53	2.62
133-462.9	D-18	12.3	1.3	0.40	0.30	0.20	5.33	3.53
463-700	D-31	16.3	1.8	0.50	0.40	0.30	7.00	5.33



Specification :

Name	Bore Dia.	Groove Dia.	Groove Width
	D	d	H
AQ5	40	30	6.3
AQ5	42	32	6.3
AQ5	45	35	6.3
AQ5	48	38	6.3
AQ5	50	40	6.3
AQ5	52	42	6.3
AQ5	55	45	6.3
AQ5	60	50	6.3
AQ5	63	53	6.3
AQ5	65	55	6.3
AQ5	70	60	6.3
AQ5	75	65	6.3
AQ5	80	67	8.3
AQ5	85	72	8.3
AQ5	90	77	8.3
AQ5	95	82	8.3
AQ5	100	87	8.3
AQ5	105	92	8.3
AQ5	110	97	8.3
AQ5	115	102	8.3
AQ5	120	107	8.3
AQ5	125	112	8.3
AQ5	130	117	8.3

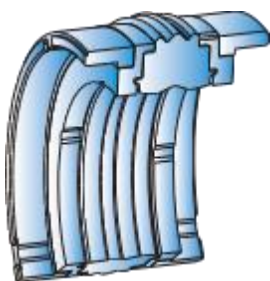
Name	Bore Dia.	Groove Dia.	Groove Width
	D	d	H
AQ5	135	117	12.3
AQ5	140	122	12.3
DAQ	150	132	12.3
DAQ	160	142	12.3
DAQ	170	152	12.3
DAQ	180	162	12.3
DAQ	190	172	12.3
DAQ	200	182	12.3
DAQ	210	192	12.3
DAQ	220	202	12.3
DAQ	230	212	12.3
DAQ	240	222	12.3
DAQ	250	232	12.3
DAQ	260	242	12.3
DAQ	270	252	12.3
DAQ	280	262	12.3
DAQ	290	272	12.3
DAQ	300	282	12.3
DAQ	310	292	12.3
DAQ	320	302	12.3

If your required sizes are not listed in the table, please kindly contact us.



DAS活塞密封/Piston seals

DAS型



Design Description:

The DAS combination seal is a double-acting sealing and guiding component consisting of an elastomeric sealing ring, two backup rings, and two guide rings. The sealing ring provides excellent sealing performance in both static and dynamic conditions, while the backup rings prevent extrusion of the rubber sealing ring. The guide rings serve as effective support elements, and the unique structural design of the elastomeric component ensures distortion-free installation within the groove. The DAS seal is a compact combination of sealing and guiding, suitable for installation in open or closed grooves, enabling applications in extremely tight spaces.

Technical Specification:

- Pressure: 40 MPa
- Speed: 0.5 m/s
- Temperature: -30°C to +100°C

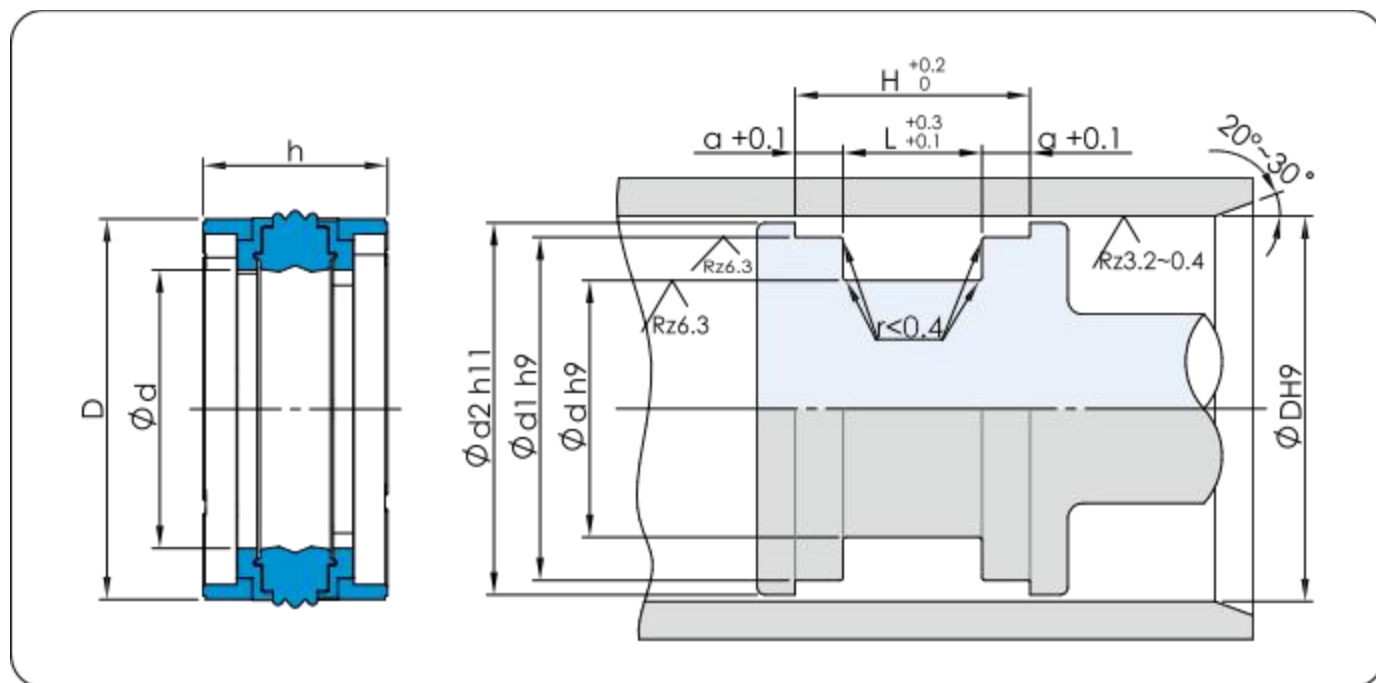
Medium: Compatible with common hydraulic oils.

Materials:

Sealing Ring: Nitrile rubber (NBR)

Backup Rings: High-strength polyester elastomer

Guide Rings: Modified polyoxymethylene (POM)



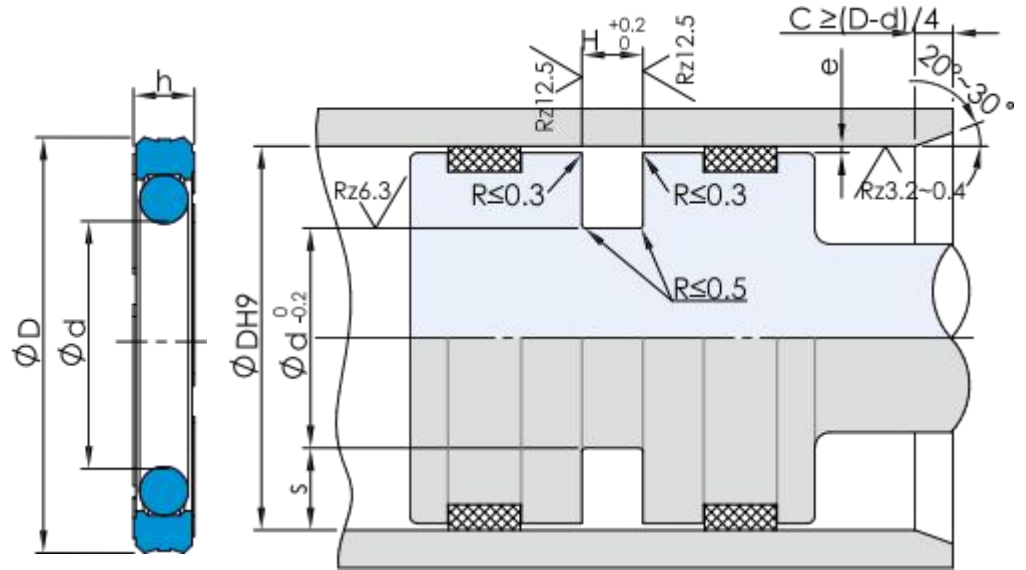
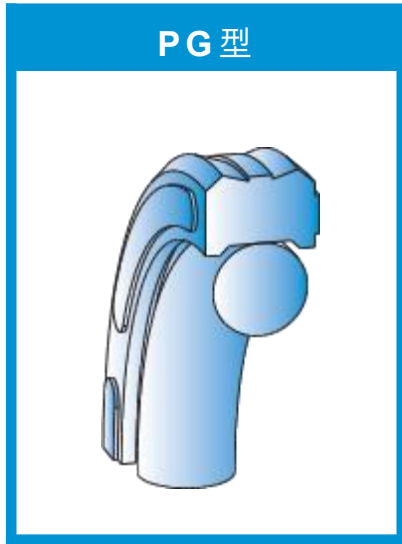
DAS活塞密封/Piston seals



Name	D	d	L	H	d1	d2	a
DAS	30.00	21.00	13.50	17.70	27.00	29.00	2.10
DAS	32.00	22.00	15.50	20.70	28.00	31.00	2.60
DAS	40.00	30.00	16.40	29.10	35.40	38.50	6.35
DAS	40.00	24.00	18.40	31.10	35.40	38.50	6.35
DAS	45.00	35.00	16.40	29.10	40.40	43.50	6.35
DAS	50.00	34.00	18.40	31.10	45.40	48.50	6.35
DAS	50.00	34.00	20.50	26.70	46.00	49.00	3.10
DAS	50.00	38.00	20.50	28.90	46.00	48.50	4.20
DAS	55.00	39.00	18.40	31.10	50.36	53.50	6.35
DAS	60.00	44.00	18.40	31.10	55.40	58.50	6.35
DAS	60.00	44.00	20.50	26.70	56.00	59.00	3.10
DAS	60.00	48.00	20.50	28.90	56.00	58.50	4.20
DAS	63.00	47.00	18.40	31.10	58.40	61.50	6.35
DAS	63.00	47.00	19.40	32.10	58.40	61.50	6.35
DAS	63.00	47.00	20.50	26.70	59.00	62.00	3.10
DAS	65.00	50.00	18.40	31.10	60.40	63.50	6.35
DAS	65.00	49.00	20.50	26.70	61.00	64.00	3.10
DAS	70.00	54.00	20.50	26.70	66.00	69.00	3.10
DAS	70.00	58.00	20.50	28.90	66.00	68.50	4.20
DAS	70.00	50.00	22.40	35.10	64.20	68.30	6.35
DAS	75.00	55.00	22.40	35.10	69.20	73.30	6.35
DAS	80.00	60.00	22.40	35.10	74.15	78.30	6.35
DAS	80.00	62.00	22.50	29.70	76.00	79.00	3.60
DAS	80.00	66.00	22.50	32.90	76.00	78.50	5.20
DAS	85.00	65.00	22.40	35.10	79.30	83.30	6.35
DAS	90.00	70.00	22.40	35.10	84.15	88.30	6.35
DAS	95.00	75.00	22.40	35.10	89.15	93.30	6.35
DAS	100.00	75.00	22.40	35.10	93.15	98.00	6.35
DAS	105.00	80.00	22.40	35.40	98.10	103.00	6.50
DAS	110.00	85.00	22.40	35.10	103.10	108.00	6.35
DAS	115.00	90.00	22.40	35.10	108.10	113.00	6.35
DAS	120.00	95.00	22.40	35.10	113.10	118.00	6.35
DAS	125.00	100.00	25.40	38.10	118.10	123.00	6.35
DAS	130.00	105.00	25.40	44.40	122.60	127.50	9.50
DAS	140.00	115.00	25.40	38.10	133.00	138.00	6.35
DAS	140.00	115.00	25.40	44.40	132.60	137.50	9.50
DAS	145.00	120.00	25.40	44.40	137.60	142.50	9.50
DAS	150.00	125.00	25.40	44.40	142.60	147.50	9.50
DAS	160.00	135.00	25.40	44.40	152.60	157.50	9.50
DAS	165.00	140.00	25.40	44.40	157.60	162.50	9.50
DAS	170.00	145.00	25.40	50.80	161.70	167.10	12.70
DAS	180.00	155.00	25.40	50.80	171.70	177.10	12.70
DAS	180.00	150.00	35.40	48.10	172.95	177.87	6.35
DAS	190.00	165.00	25.40	50.80	181.70	187.00	12.70
DAS	200.00	175.00	25.40	50.80	191.60	197.00	12.70



PG 活塞密封/Piston seals



Design Description:

The PG-type piston seal is a double-acting sealing component consisting of a preloaded elastomeric O-ring and a specially designed polyurethane sealing outer ring. The two outer sealing lips serve as the main seals, effectively containing the pressure of the fluid from both sides while preventing hydraulic pressure buildup across the entire sealing surface. The support ring located in the middle of the sealing surface, along with the raised edges of the sealing lips, enhances the sealing effect by increasing the contact pressure. The advantages of the PG seal include:

- Excellent dynamic and static sealing performance, ensuring reliable position retention under load.
- Allows for a wide range of cylinder bore surface finishes.
- Low wear rate and long service life.
- Simple groove design, allowing for the use of integral pistons without the need for outer ring reset during installation.

Technical Specification:

- Maximum Speed: 0.5 m/s
- Outer Ring Materials and Maximum Pressure:
 - High-strength polyurethane elastomer: 60D, maximum pressure 35 MPa
 - Standard polyurethane elastomer: 93A, maximum pressure 25 MPa
- Temperature Range: -35°C to +100°C

Max.Clearance e (mm):

Pressure Mpa	16	25	35	40
Max.Extrusion (H>6) mm	0.9	0.8	0.5	0.4
Max.Extrusion (H<6) mm	0.7	0.5	0.3	0.2



Specification :

Name	D	d	H
PG	40	29	4.2
PG	45	34	4.2
PG	50	39	4.2
PG	60	49	4.2
PG	63	52	4.2
PG	70	59	4.2
PG	50	34.5	6.3
PG	55	39.5	6.3
PG	60	44.5	6.3
PG	65	49.5	6.3
PG	70	54.5	6.3
PG	75	59.5	6.3
PG	80	64.5	6.3
PG	85	69.5	6.3
PG	90	74.5	6.3
PG	95	79.5	6.3
PG	100	84.5	6.3
PG	105	89.5	6.3
PG	110	94.5	6.3
PG	115	99.5	6.3
PG	120	104.5	6.3
PG	125	109.5	6.3
PG	130	114.5	6.3

Name	D	d	H
PG	85	64	8.1
PG	90	69	8.1
PG	95	74	8.1
PG	100	79	8.1
PG	105	84	8.1
PG	110	89	8.1
PG	115	94	8.1
PG	120	99	8.1
PG	125	104	8.1
PG	130	109	8.1
PG	135	114	8.1
PG	140	119	8.1
PG	145	124	8.1
PG	150	129	8.1
PG	155	134	8.1
PG	160	139	8.1
PG	165	144	8.1
PG	170	149	8.1
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PG	210	189	8.1
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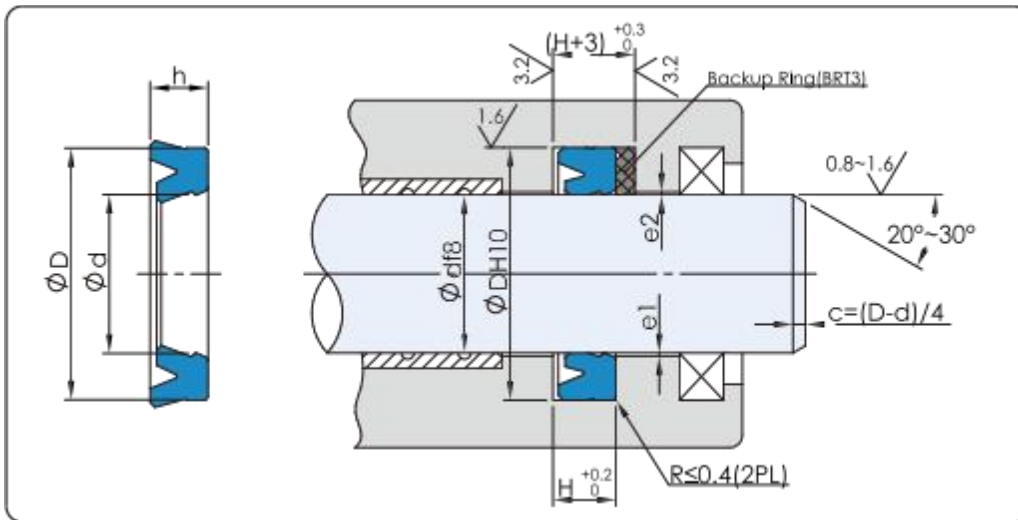
MPS 型



The MPS type is the result of advancements in lip seal technology. It combines the advantages of a highly elastic Quard ring and a lip sealing material with excellent wear resistance.

This specialized sealing component, primarily used in mobile equipment, incorporates the unique structure of the Quard ring. The Quard ring ensures a preloading effect on the sealing lips under low pressure or vacuum conditions. It exhibits minimal sensitivity to temperature variations, and even with some degree of wear, it maintains the necessary preloading effect. The lips are loaded as the system pressure increases, with the pressure transmitted to the lips through the compressed deformation of the Quard ring. The advantages of the MPS seal include:

- Insensitivity to vibration loads and pressure spikes.
- High resistance to extrusion.
- Ideal sealing performance under no-load and low-temperature conditions.
- Suitable for the most demanding operating conditions.



Max extrusion gap (e1mm)

截面宽 Depth S	16MPa	25MPa	40MPa
4	0.4	0.3	0.15
5	0.5	0.4	0.2
7.5	0.55	0.45	0.25
10	0.6	0.5	0.3

最大工作压力 (for pressures)	14MPa	21MPa	35MPa
垫片材料 (Backup Ring Material)	聚四氟乙烯(PTFE)		
e2	e1+0.5	e1+0.25	e1+0.1
最大工作压力 (for pressures)	35MPa	42MPa	70MPa
垫片材料 (Backup Ring Material)	尼龙(NYLON)		
e2	e1+0.4	e1+0.2	e1+0.1

Technical Specification:

压力/Pressure	40MPa			
速度/Speed	0.5m/s			
材料/Material (PU)	U3091	U4031	U2051	U2041
温度/Temperature(°C)	-45+100	-35+100	-25+120	-30+120
介质/Media	矿物基液压油/MineralBaseHydraulicOil			

Order Method:
MPR-D*d*h U2041



活塞主油封/Piston seals

Specification:

d	D	h	H
14	22	5	5.7
16	24	5	5.7
16	24	5.7	6.3
18	26	5	5.7
18	26	5.7	6.3
20	28	5	5.7
20	28	5.7	6.3
20	28	6.3	7
22	30	5	5.7
22	30	5.7	6.3
22	30	6.3	7
25	33	5	5.7
25	33	5.7	6.3
25	33	6.3	7
25	35	6	7
28	36	5	5.7
28	36	5.7	6.3
28	36	6.3	7
28	38	6	7
28	38	7	8
30	38	5	5.7
30	38	5.7	6.3
30	38	6.3	7
30	40	6	7
30	40	7	8
30	40	8	9
32	40	6.3	7
32	42	6	7
32	42	7	8
32	42	8	9
35	43	6.3	7
35	45	6	7
35	45	7	8
35	45	8	9
36	46	6	7
36	46	7	8
36	46	8	9
38	48	6	7
38	48	7	8
38	48	8	9
40	50	6	7

d	D	h	H
40	50	7	8
40	50	8	9
40	55	9	10
40	53	10	11
45	55	6	7
45	55	7	8
45	55	8	9
45	60	9	10
45	58	10	11
45	60	11.4	12.5
50	60	6	7
50	60	7	8
50	60	8	9
50	65	9	10
50	63	10	11
50	65	11.4	12.5
53	63	6	7
53	63	7	8
53	63	8	9
55	65	6	7
55	65	7	8
55	65	8	9
55	70	9	10
55	68	10	11
55	70	11.4	12.5
56	71	11.4	12.5
60	70	6	7
60	70	7	8
60	70	8	9
60	75	9	10
60	73	10	11
60	75	11.4	12.5
63	73	6	7
63	73	7	8
63	73	8	9
63	78	9	10
63	78	11.4	12.5
65	75	6	7
65	75	7	8
65	75	8	9
65	80	9	10

d	D	h	H
65	78	10	11
65	80	11.4	12.5
70	80	6	7
70	80	7	8
70	80	8	9
70	85	9	10
70	83	10	11
70	85	11.4	12.5
71	81	6	7
71	81	7	8
71	81	8	9
75	85	6	7
75	85	7	8
75	85	8	9
75	90	9	10
75	88	10	11
75	90	11.4	12.5
80	90	6	7
80	90	7	8
80	90	8	9
80	95	9	10
80	93	10	11
80	95	10	11
80	95	11.4	12.5
80	100	12	13
85	100	9	10
85	98	10	11
85	100	10	11
85	100	11.4	12.5
85	105	12	13
90	105	9	10
90	105	10	11
90	105	11.4	12.5
90	110	12	13
95	110	9	10
95	110	10	11
95	110	11.4	12.5
95	115	12	13
100	115	9	10
100	115	10	11
100	115	11.4	12.5



d	D	h	H
100	120	12	13
100	120	15	16
105	120	9	10
105	120	10	11
105	125	12	13
105	125	15	16
110	125	9	10
110	125	10	11
110	130	10	11
110	130	12	13
110	130	15	16
115	130	9	10
115	130	10	11
115	135	12	13
115	135	15	16

d	D	h	H
120	135	9	10
120	135	10	11
120	140	10	11
120	140	12	13
120	140	15	16
120	140	15	16
125	140	9	10
130	145	9	10
130	150	12	13
130	150	15	16
135	150	9	10
140	155	9	10
140	160	12	13
140	160	15	16
145	160	9	10

d	D	h	H
150	165	9	10
150	170	12	13
150	170	15	16
155	170	9	10
160	175	9	10
160	180	12	13
160	180	15	16
170	190	12	13
170	190	15	16
180	200	12	13
180	200	15	16
190	210	12	13
190	210	15	16
200	220	12	13
200	220	15	16

Inch Dimension:

mm				inch			
d	D	h	H	d	D	h	H
38.1	47.62	9.53	10.3	1.500	1.875	0.375	0.413
44.45	53.97	9.53	10.3	1.750	2.125	0.375	0.413
50.8	60.32	9.53	10.3	2.000	2.375	0.375	0.413
57.15	66.67	9.53	10.3	2.250	2.625	0.375	0.413
38.1	50.8	9.53	10.5	1.500	2.000	0.375	0.413
44.45	57.15	9.53	10.5	1.750	2.250	0.375	0.413
50.8	63.5	9.53	10.5	2.000	2.500	0.375	0.413
57.15	69.85	9.53	10.5	2.250	2.750	0.375	0.413
63.5	76.2	9.53	10.5	2.500	3.000	0.375	0.413
69.85	82.55	9.53	10.5	2.750	3.250	0.375	0.413
76.2	88.9	9.53	10.5	3.000	3.500	0.375	0.413
82.55	95.25	9.53	10.5	3.250	3.750	0.375	0.413
88.9	101.6	9.53	10.5	3.500	4.000	0.375	0.413
95.25	107.95	9.53	10.5	3.750	4.250	0.375	0.413
101.6	114.3	9.53	10.5	4.000	4.500	0.375	0.413



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