element™ NORSOK M-710

TS16949

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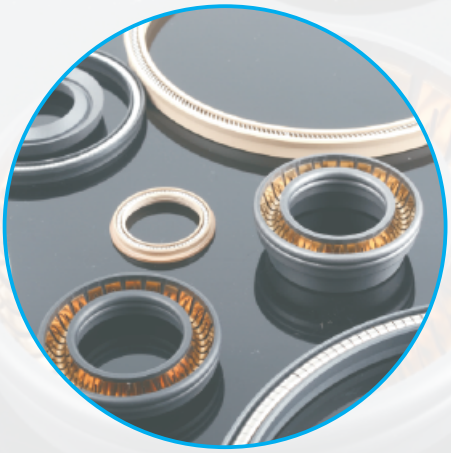
Valve Industry Sealing Solution

LONG 旭隆®



SPRING ENERGIZED SEAL

Spring energized Seal, designed and produced by Xlong Seal, is a special high-performance seal with spring built-in. With suitable spring force and system fluid pressure, the sealing lip (surface) is gently pressed to the sealed metal surface to get a very excellent sealing effect. Effect actuation of the spring can overcome the slight eccentric of metal surface and wear of the sealing lip, while continuing maintain the desired sealing performance.

PTFE is with excellent heat resistance, and better chemical resistance than FFKM. It can be applied in virtually all chemical fluids, solvent, hydraulic fluids, lubricants. Its low compression set contributes to its long-term sealing performance. The use of special springs overcomes the problem of PTFE and other high performance plastics' flexibility shortage. The spring energized seals can replace virtually all seals for static and dynamic (reciprocating and rotary) applications. The working temperature ranges from -200℃ to 300℃, pressure ranges from vacuum to 70MPA, velocity can be up to 20m/s. For different ambient conditions, different spring materials are used, such as Elgiloy and Hastelloy for extremely high temperature and corrosive conditions.

Sealing material and performance

Code	Material	Color	Temperature	Characteristics
F200	Virgin PTFE	White	-200℃~+260℃	Suitable for static, slow motion or light load applications, good air tightness, low friction coefficient and limited wear resistance
F213	PTFE+Carbon	Black	-200℃~+260℃	Suitable for static and dynamic applications with medium loads for dry running, gas, sea water, etc.
F214	PTFE+high carbon filling	Black	-200℃~+260℃	Suitable for high load static and dynamic applications for dry running, sea water, steam, etc.
F215	PTFE+Carbon fiber	Black	-200℃~+260℃	High grade PTFE with carbon fiber, good wear resistance, lower friction characteristics, suitable for reciprocating applications, rotating applications, poor lubricity media
F219	PTFE+high Carbon fiber	Black	-200℃~+260℃	For linear and rotary motion in hydraulic oil and water (lubricated, non-lubricated) for dry running
F220	PTFE+Carbon +Graphite	Black	-200℃~+260℃	Suitable for all oils (hydraulic, pneumatic, lubricated, non-lubricated), high crush resistance, good chemical resistance
F225	PTFE+Polymer	Biege	-200℃~+260℃	Suitable for low pressure rotary applications and low hardness surfaces
F250	Modified PTFE	White	-200℃~+260℃	Excellent performance in low temperature applications
F260	Virgin PEEK	Beige	-200℃~+260℃	Excellent mechanical properties, excellent corrosion resistance and high temperature resistance
F270	UHMWPE	White& Transparent	-200℃~+80℃	Very wear resistant in dry friction applications, excellent chemical resistance, abrasion resistance, and extrusion resistance
F279	PCTFE	White& Transparent	-200℃~+260℃	Excellent low temperature resistance, good dimensional stability, often used as a low temperature valve fitting

Material of Spring

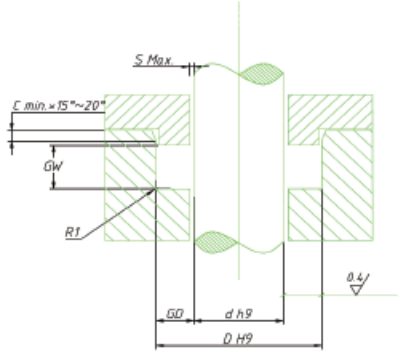
Code	Material of Spring	Medium
S	Stainless steel	Air, water, steam, food, medicine, grease, etc.
E	Corrosion resistant alloy	Used in petrochemicals such as petroleum, sulfur-containing natural gas, etc.
H	Corrosion resistant alloy	Used in corrosive media such as acid, seawater, etc.

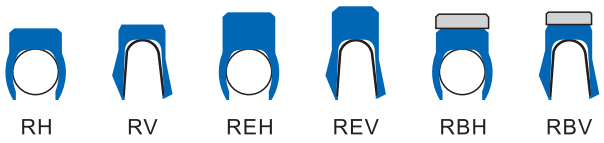
Seals selection guide

seals profile	Description/Application	Temperature	Pressure
	For static and slow dynamic applications only.Good sealing for light gases, cryogenics and vacuum.	-196° C~190° C	20.7Mpa
	For greater extrusion resistance in application with high pressure.	-196° C~190° C	68.9Mpa
	For high pressure valve sealing,an back-up ring was required to improve anti-extrusion performance.	-196° C~190° C	137.9Mpa
	Support ring added to prevent lip when installing and back pressure releasing.	-196° C~190° C	20.7Mpa
	For general purpose static,reciprocating and slow rotary service, such as hydraulic and pneumatic cylinders actuators,valve stem. Also used in high temperature condition	-196° C~190° C	20.7Mpa
	For greater extrusion resistance in application with high pressure.	-50° C~260° C	68.9Mpa
	For extreme higher pressure,and preform well together with high temperature	-50° C~260° C	137.9Mpa
	Support ring added to prevent lip when installing and back pressure releasing.	-50° C~260° C	20.7Mpa
	Outside flange that stabilizes the seal and prevents seal rotation, also protect lips when back pressure existing.	-196° C~260° C	20.7Mpa
	For static service, mainly in flange face sealing of valve.	-196° C~260° C	40Mpa
	For high pressue static sealing, mainly in flange face sealing of valve.	-196° C~260° C	80Mpa
	For double pressure application,usually used as DPE sealing of ball valve.	-50° C~190° C	68.9Mpa
	For double pressure application, especially for cryogenic DPE	-196° C~150° C	50Mpa
	A muti element lip seal, which provides high sealing efficiency, usually as valve stem packing.	-50° C~190° C	207Mpa

Stem seal

It is used in regulating valves, ball valves, check valves, gate valves, etc. in the chemical, oil and gas industry. It is recipro-cating, rotating and spiral motion. The moving speed is relatively slow, and the frequency of motion depends on the actual application. Corrosion-resistant medium, long service life, can withstand the dramatic changes in temperature, can be interchanged with the combination of O-ring and retaining ring.

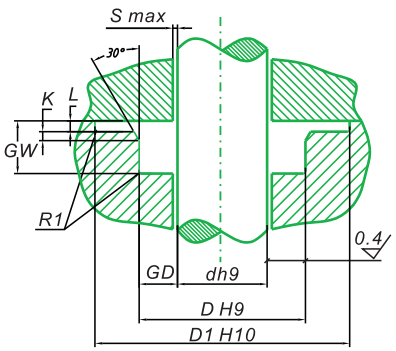


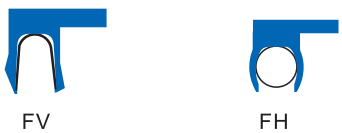


Model	Diameter dh9	Groove diameter DH9	Groove depth GD	Groove width GW +0.2	Maximum clearance			Minimum chamfer length C	Rounded corner R1
					10Mpa	20Mpa	40Mpa		
RH1/RV1	6~70	d+4.50	2.25	3.6	0.15	0.1	0.07	4	0.4
RH2/RV2	10~100	d+6.20	3.1	4.8	0.2	0.15	0.08	5	0.6
RH3/RV3	20~150	d+9.40	4.7	7.1	0.25	0.2	0.1	6.5	0.8
RH4/RV4	35~450	d+12.20	6.1	9.5	0.3	0.25	0.12	10	0.8

Model	Diameter dh9	Groove diameter DH9	Groove depth GD	Groove width GW +0.2	Maximum clearance			Minimum chamfer length C	Rounded corner R1
					10Mpa	20Mpa	40Mpa		
REH1/REV1	6~70	d+4.50	2.25	4.6	0.15	0.1	0.08	4	0.4
REH2/REV2	10~100	d+6.20	3.1	5.7	0.2	0.15	0.1	5	0.6
REH3/REV3	20~150	d+9.40	4.7	8.5	0.25	0.2	0.12	6.5	0.8
REH4/REV4	35~450	d+12.20	6.1	11.2	0.3	0.25	0.15	10	0.8

Model	Diameter dh9	Groove diameter DH9	Groove depth GD	Groove width GW +0.2	Maximum clearance			Minimum chamfer length C	Rounded corner R1
					10Mpa	40Mpa	100Mpa		
RBH1/RBV1	6~70	d+4.50	2.25	4.8	0.2	0.2	0.08	4	0.4
RBH2/RBV2	10~100	d+6.20	3.1	6.3	0.35	0.25	0.1	5	0.6
RBH3/RBV3	20~150	d+9.40	4.7	9	0.45	0.35	0.12	6.5	0.8
RBH4/RBV4	35~450	d+12.20	6.1	12	0.6	0.45	0.15	10	0.8

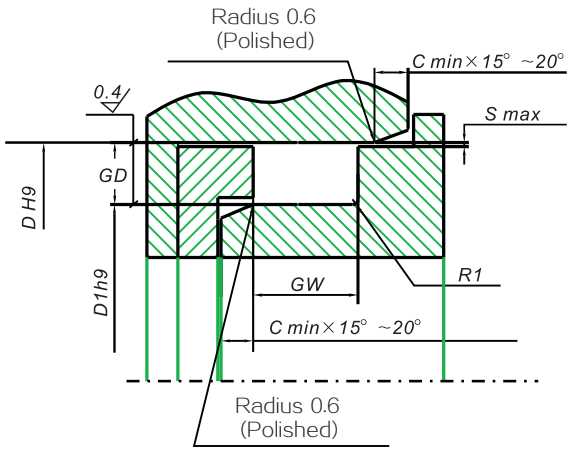


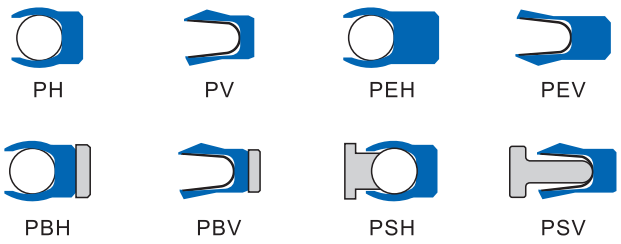


Model	Diameter dh9	Groove diameter DH9	Groove diameter D1H10	Groove depth GD	Groove width GW +0.2	Groove width	ntroducing chamfer K	Smax 10Mpa	Smax 20Mpa	R1
FH1/FV1	6~70	d+4.5	d+9.0	2.25	3.6	0.85 0/-0.1	0.9	0.15	0.1	0.3
FH2/FV2	10~100	d+6.2	d+12.5	3.1	4.8	1.35 0/-0.15	1.2	0.2	0.15	0.4
FH3/FV3	20~150	d+9.4	d+17.5	4.7	7.1	1.8 0/-0.2	1.6	0.25	0.2	0.5
FH4/FV4	35~450	d+12.2	d+22	6.1	9.5	2.8 0/-0.2	1.8	0.3	0.25	0.5

Seat seal-SPE

Used in chemical, oil and gas industry regulating valves, ball valves, check valves, etc., static, reciprocating, rotating or spiral motion.





Model	Bore diameter dh9	Groove diameter D1h9	Groove depth GD	Groove width GW +0.2	Maximum clearance			Minimum chamfer length C	Rounded corner R1
					10Mpa	20Mpa	40Mpa		
PH1/PV1	6~70	D-4.50	2.25	3.6	0.15	0.1	0.07	4	0.4
PH2/PV2	10~100	D-6.20	3.1	4.8	0.2	0.15	0.08	5	0.6
PH3/PV3	20~150	D-9.40	4.7	7.1	0.25	0.2	0.1	6.5	0.8
PH4/PV4	100~630	D-12.20	6.1	9.5	0.3	0.25	0.12	10	0.8
PH5/PV5	200~1500	D-19.00	9.5	15	0.5	0.4	0.2	12	0.8

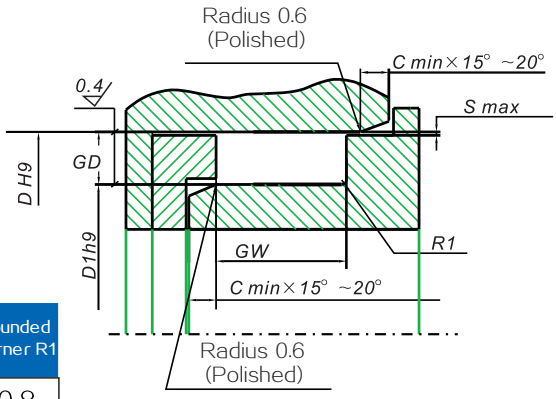
Model	Bore diameter dh9	Groove diameter D1h9	Groove depth GD	Groove width GW +0.2	Maximum clearance			Minimum chamfer length C	Rounded corner R1
					10Mpa	20Mpa	40Mpa		
PEH1/PEV1	6~70	D-4.50	2.25	4.6	0.15	0.1	0.08	4	0.4
PEH2/PEV2	10~100	D-6.20	3.1	5.7	0.2	0.15	0.1	5	0.6
PEH3/PEV3	20~150	D-9.40	4.7	8.5	0.25	0.2	0.12	6.5	0.8
PEH4/PEV4	100~630	D-12.20	6.1	11.2	0.3	0.25	0.15	10	0.8
PEH5/PEV5	200~1500	D-19.00	9.5	18	0.5	0.4	0.25	12	0.8

Model	Bore diameter dh9	Groove diameter D1h9	Groove depth GD	Groove width GW +0.2	Maximum clearance			Minimum chamfer length C	Rounded corner R1
					10Mpa	20Mpa	40Mpa		
PBH1/PBV1	6~70	D-4.50	2.25	4.8	0.2	0.2	0.08	4	0.4
PBH2/PBV2	10~100	D-6.20	3.1	6.3	0.35	0.25	0.1	5	0.6
PBH3/PBV3	20~150	D-9.40	4.7	9	0.45	0.35	0.12	6.5	0.8
PBH4/PBV4	100~630	D-12.20	6.1	12	0.6	0.45	0.15	10	0.8
PBH5/PBV5	200~1500	D-19.00	9.5	18	0.8	0.6	0.25	12	0.8

Model	Bore diameter dh9	Groove diameter D1h9	Groove depth GD	Groove width GW +0.2	Maximum clearance			Minimum chamfer length C	Rounded corner R1
					10Mpa	20Mpa	40Mpa		
PSH2/PSV2	10~100	D-6.20	3.1	8	0.2	0.15	0.08	5	0.6
PSH3/PSV3	20~150	D-9.40	4.7	11	0.25	0.2	0.1	6.5	0.8
PSH4/PSV4	100~630	D-12.20	6.1	14.5	0.3	0.25	0.12	10	0.8
PSH5/PSV5	200~1500	D-19.00	9.5	22	0.5	0.4	0.2	12	0.8

Seat seal-DPE

PDV



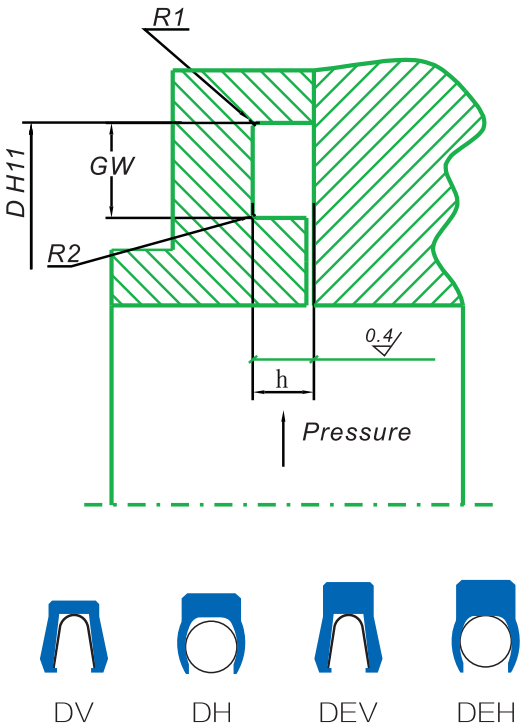
Model	Bore diameter dh9	Groove diameter D1h9	Groove depth GD	Groove width GW +0.2	Minimum chamfer length C	Rounded corner R1
PDV3	20~150	D-9.40	4.7	21.5	6.5	0.8
PDV4	100~630	D-12.20	6.1	28.5	10	0.8
PDV5	200~1500	D-19.00	9.5	43	12	0.8

Face seal

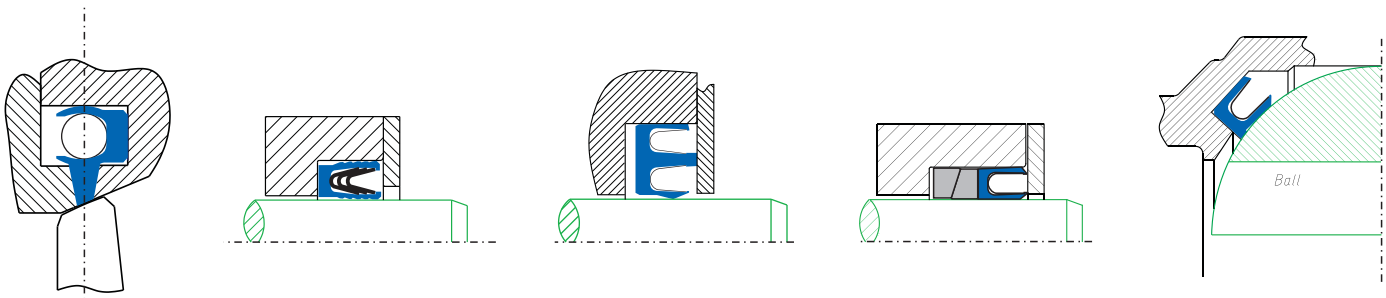
Commonly used for flange face sealing of valves, static application, can seal internal pressure and external pressure

Model	groove outer diameter DH11	Groove depth		Groove width GW.Min	R1
		h	Tolerance		
DH1/DV1	13~200	2.25	+0.05	3.6	0.4
DH2/DV2	18~400	3.1	+0.08	4.8	0.6
DH3/DV3	28~475	4.7	+0.1	7.1	0.8
DH4/DV4	45~800	6.1	+0.15	9.5	0.8
DH5/DV5	110~1500	9.5	+0.2	15	0.8

Model	groove outer diameter DH11	Groove depth		Groove width GW.Min	R1
		h	Tolerance		
DEH1/DEV1	13~200	2.25	+0.05	4.6	0.4
DEH2/DEV2	18~400	3.1	+0.08	5.7	0.6
DEH3/DEV3	28~475	4.7	+0.1	8.5	0.8
DEH4/DEV4	45~800	6.1	+0.15	11.2	0.8
DEH5/DEV5	110~1500	9.5	+0.2	20	0.8



Special design



XLONG SEAL- A company moving forward with continuous innovation and improvements. Our commitment is to satisfy all industries with the optimum combination of low MOQ, best quality and value-added service. Our goal is to be a respectable partner in sealing industry.

We're your source for expertise in virtually every area, including materials, design, prototyping, testing and more. Our ERP system reduces even more costs and save more time. We'll barcode all incoming and outgoing shipments for accurate traceability, easy verification and to streamline your receiving process.

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