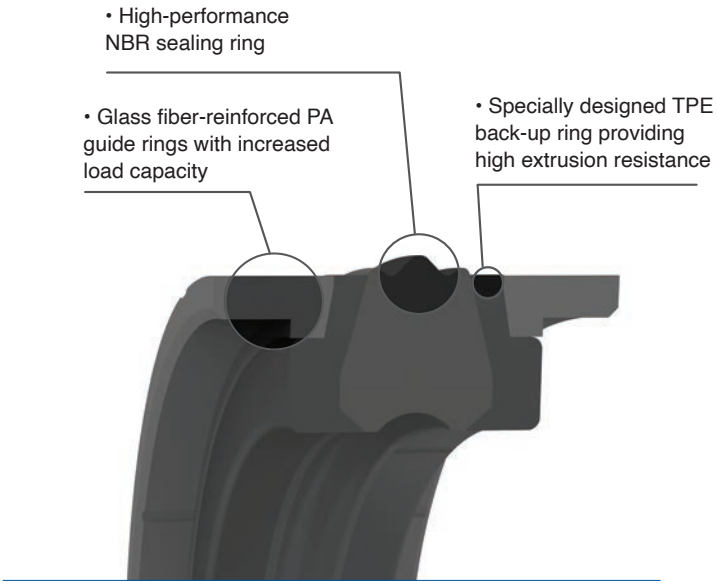
K518X

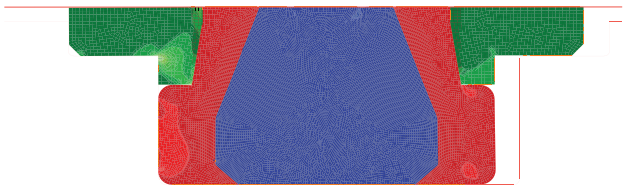
High Performance Compact Piston Seal

K518X is a five-piece double-acting compact piston seal set consisting of an elastomeric sealing ring, thermoplastic elastomer backup rings, and high-strength glass fiber-reinforced thermoplastic guide rings. Engineered for long-stroke hydraulic systems operating under high axial loads, K518X ensures exceptional static and dynamic sealing performance.

The guide and backup rings feature precision-machined relief channels that facilitate controlled fluid flow into and out of the groove—enhancing sealing reliability, especially at high speeds. The split design of the non-metallic components enables easy installation on one-piece piston heads. Additionally, the newly developed guide material offers up to 45% higher load-bearing capacity compared to standard thermoplastics, while the elastomer element maintains its mechanical integrity even during prolonged system dwell times.



K518X Finite Element Analysis **Pressure**: 250 bar



Picture 5.2

Total Leakage 400 Bar 60°C

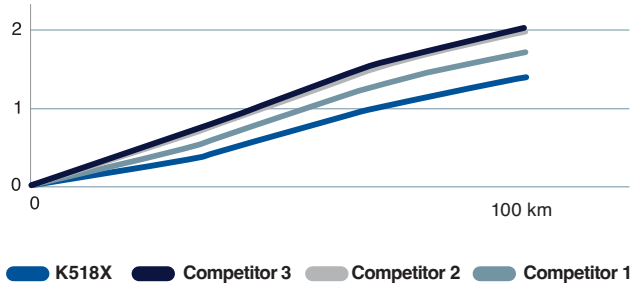


Table 5.2

Deflection Under Load (1.8 MPa)

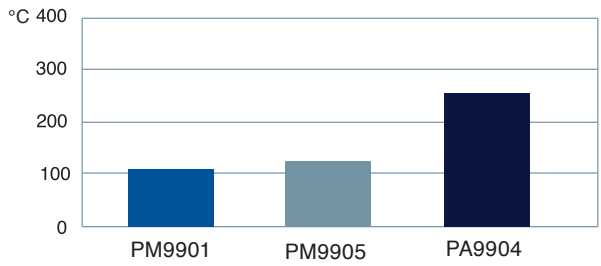


Table 5.3

Tensile Modulus

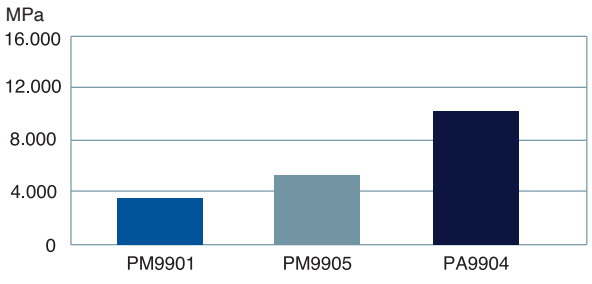


Table 5.4

K518X-K518

Compact Piston Seal



K518X



K518

Advantages

K518X

- Good sealing effect
- Long service life
- Economical solution
- Compact design

K518

- Good sealing effect
- High extrusion resistance
- Long service life
- Compact design

Application

- Agricultural machinery
- Construction machinery
- Mobile machinery
- Loading platforms
- Forklifts

Operating Conditions

MOTION:	Linear		
PRESSURE (bar):	400 bar (max)		
SPEED (m/s):	0.5 m/s (max)		
TEMPERATURE (°C):	-30/+105 °C	+5/+50 °C	-30/+50 °C
MEDIA TYPE:	Mineral Oils	HFA/HFB	HFC

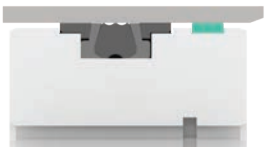
NOTE: The above values (speed, pressure, temperature) are maximum values, all cannot be used at the same time.

Material Information

Sealing Ring	Back-up Ring	Guide Ring	Remarks
Elastomer-NB8001	Thermoplastic elastomer-TP7301	Thermoplastic-PA9904	Standard produced material code

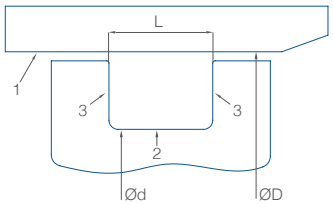
Note: In the special application conditions (temperature, media, etc.) Can be produced from different materials. You can refer to Table 2.6 and Table 2.7 for details or you can contact our sales department.

Sample Design



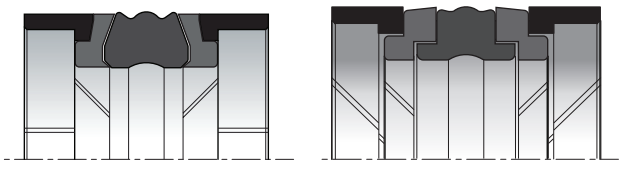
NOTE: For long stroke cylinders, it is recommended to choose designs with bigger wall thicknesses. Depending on the axial load, the piston head can be reinforced with composite guide element.

Surface Roughness



	1 (rod)	2 (groove base)	3 (groove flanks)
Ra	0.1-0.4 μm	0.2-1.6 μm	0.2-3.2 μm
Rmax	< 3.2 μm	< 6.3 μm	< 16 μm
Rmr	When C = 0.25xRz on the dynamic work surface and reference line C_{ref} = 5% , the working surface contact area should be approximately between 55% and 80%.		

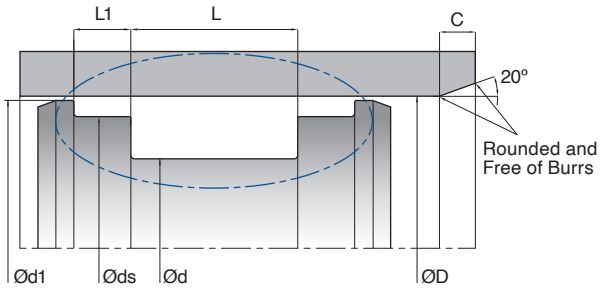
Installation Information

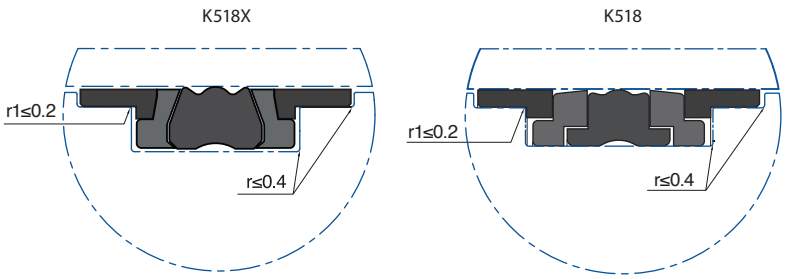


K518X **K518**

Since the guiding element and back-up rings are produced with cuts, it is easy to assemble per one piece piston.It is important the installation tools are soft and no sharp edges. Before installation the sealing element must be oiled with system oil or grease. The tube chamfers are important in order to avoid the deformation at guide rings. (See Installation instructions - Page 51-57)

K518X-K518 Compact Piston Seal





KASTAŞ NO	D (H8)	d (h9)	L (+0.2/-0)	ds (h8)	d1 (±0.1)	L1 (+0.2/-0)	C	KASTAŞ CODE
K518 025-016	25	16	13.5	22	24	2.1	4	10021614
K518 030-021	30	21	13.5	27	29	2.1	4	10021616
K518 032-022	32	22	16.4	28.5	30.5	6.35	4	10021618
K518 032-024	32	24	15.5	28	31	3.1	4	10021620
K518 035-025	35	25	16.4	31.4	33.5	6.35	4	10021621
K518 X 040-024	40	24	18.4	35.4	38.5	6.35	5	10039024
K518 X 040-030	40	30	16.4	35.4	38.5	6.35	4	10039025
K518 040-030/1	40	30	12.5	37	39	4	4	10021625
K518 040-032	40	32	15.5	36	39.4	3.2	4	10021626
K518 040-032/1	40	32	10	37	39	4	4	10021627
K518 044.45-028.57	44.45	28.57	19.05	39.85	43.12	6.35	5	10021628
K518 045-029	45	29	18.4	40.4	43.5	6.35	5	10021629
K518 045-035	45	35	16.4	40.4	43.5	6.35	4	10021630
K518 X 050-034	50	34	20.5	46	49	3.1	5	10036574
K518 X 050-034/1	50	34	18.4	45.41	48.66	6.35	5	10039026
K518 050-038	50	38	20.5	46	49.4	4.2	4	10021634
K518 050.8-034.92	50.8	34.92	19.05	46.23	49.48	6.35	5	10021631
K518 X 055-039	55	39	20.5	51	54	3.1	5	10039028
K518 055-039/1	55	39	18.4	50.37	53.65	6.35	5	10021637
K518 055-045	55	45	12.5	52	54	4	4	10021638
K518 X 060-044	60	44	20.5	56	59	3.1	5	10039029
K518 X 060-044/1	60	44	18.4	55.39	58.65	6.35	5	10038423
K518 060-048	60	48	20.5	56	59.4	4.2	4	10021642
K518 060.32-044.45	60.32	44.45	19.05	55.72	58.98	6.35	5	10021639
K518 063-047	63	47	20.5	59	62	3.1	5	10021643
K518 X 063-047/1	63	47	18.4	58.39	61.63	6.35	5	10039030
K518 063-047/2	63	47	19.4	58.4	61.5	6.35	5	10021646
K518 063-051	63	51	20.5	59	62.4	4.2	4	10021648
K518 063-053	63	53	12.5	60	62	4	4	10021650
K518 065-049	65	49	20.5	61	64	3.1	5	10021651
K518 X 065-050	65	50	18.4	60.41	63.64	6.35	5	10039031
K518 066.67-050.80	66.67	50.8	19.05	62.1	65.27	6.35	5	10021653
K518 X 070-050	70	50	22.4	64.18	68.34	6.35	6	10039032
K518 070-054	70	54	20.5	66	69	3.1	5	10021655
K518 070-058	70	58	20.5	66	69.4	4.2	5	10021657
K518 X 075-055	75	55	22.4	69.2	73.3	6.35	6	10039033
K518 075-059	75	59	20.5	71	74	3.1	5	10021660
K518 X 080-060	80	60	22.4	74.15	78.3	6.35	6	10039034
K518 080-060/2	80	60	25	75	78	6.35	6	10021664
K518 080-062	80	62	22.5	76	79	3.6	5	10021665
K518 080-066	80	66	22.4	76	79.4	5.2	5	10021667
K518 085-065	85	65	22.4	79.15	83.3	6.35	6	10021668
K518 X 090-070	90	70	22.4	84.15	88.3	6.35	6	10036575
K518 090-072/1	90	72	22.5	86	89	3.6	6	10021671
K518 090-075	90	75	20	86	88.5	5	5	10021672
K518 090-076	90	76	22.4	86	89.4	5.2	5	10021673



KASTAŞ NO	D (H8)	d (h9)	L (+0.2/-0)	ds (h8)	d1 (±0.1)	L1 (+0.2/-0)	C	KASTAŞ CODE
K518 X 095-075	95	75	22.4	89.15	93.31	6.35	6	10039035
K518 095-081	95	81	22.4	91	94.4	5.2	5	10021676
K518 X 100-075	100	75	22.4	93.13	98	6.35	6	10036573
K518 100-086	100	86	22.4	96	99.4	5.2	5	10021682
K518 105-080	105	80	22.4	98.1	103	6.5	6	10021683
K518 105-080/1	105	80	22.4	98.1	103	6.35	6	10021684
K518 X 110-085	110	85	22.4	103.1	108	6.35	6	10039036
K518 110-085/1	110	85	25.4	103.1	108	6.35	6	10021689
K518 110-092	110	92	22.4	106	109	3.6	5	10021690
K518 110-096	110	96	22.4	106	109.4	5.2	5	10021691
K518 X 115-090	115	90	22.4	108.1	113.02	6.35	6	10039037
K518 115-101	115	101	22.4	111	114.4	5.2	5	10021694
K518 X 120-095	120	95	22.4	113.1	118	6.35	6	10039038
K518 120-106	120	106	22.4	116	119.4	5.2	5	10021697
K518 X 125-100	125	100	25.4	118.1	123	6.35	6	10039039
K518 125-108	125	108	26.5	121	124.4	7.2	6	10021701
K518 130-105	130	105	25.4	123.1	128	6.35	6	10021702
K518 130-105/1	130	105	25.4	123.1	128	9.52	6	10021704
K518 X 130-105/2	130	105	25.4	122.6	127.5	9.52	6	10039040
K518 135-110	135	110	25.4	127.6	132.5	9.52	6	10021706
K518 135-110/1	135	110	25.4	128.1	133	6.35	6	10021707
K518 140-115	140	115	25.4	132.6	137.5	6.35	6	10021708
K518 X 140-115/2	140	115	25.4	133	138	6.35	6	10039041
K518 140-115/1	140	115	25.4	132.6	137.5	9.52	6	10021711
K518 X 140-118	140	118	26.5	136	139	5.1	6	10039042
K518 140-123	140	123	26.5	136	139.4	7.2	6	10021714
K518 150-125	150	125	25.4	142.6	147.5	9.5	6	10021715
K518 X 150-128	150	128	26.5	146	149	5.1	6	10039043
K518 150-133	150	133	26.5	146	149.4	7.2	5	10021720
K518 155-130/1	155	130	25.4	147.6	152.5	9.52	6	10021721
K518 X 160-130	160	130	25.4	153	157.5	6.35	7	10039044
K518 160-130/1	160	130	25.4	152.6	157.5	9.52	7	10021723
K518 160-135	160	135	25.4	152.6	157.5	9.52	6	10021724
K518 160-143	160	143	26.5	156	159.4	7.2	5	10021726
K518 165-140	165	140	25.4	157.6	162.5	9.52	6	10021728
K518 X 165-143	165	143	26.5	161	163.5	5.25	4	10039045
K518 170-145	170	145	25.4	161.72	167.1	12.7	6	10021731
K518 170-148	170	148	26.5	166	169	5.1	6	10021732
K518 180-150	180	150	35.4	172.95	177.87	6.35	7	10021733
K518 X 180-155	180	155	25.4	171.72	177.1	12.7	6	10039046
K518 X 180-158	180	158	26.5	176	179	5.1	6	10039047
K518 180-163	180	163	26.5	176	179.4	7.2	5	10021737
K518 X 190-165	190	165	25.4	181.72	187.05	12.7	6	10039048
K518 200-170	200	170	35.4	193	198	6.35	7	10021739
K518 X 200-175	200	175	31.5	196	199	6.6	6	10039049
K518 200-175/1	200	175	25.4	191.62	197	12.7	6	10021742
K518 200-180	200	180	31.5	196	199.4	9.2	6	10021744
K518 X 210-185	210	185	25.4	201.62	207	12.7	6	10039050
K518 X 220-195	220	195	25.4	211.62	217	12.7	6	10039051
K518 220-200	220	200	31.5	216	219.4	9.2	6	10021748
K518 X 230-205	230	205	25.4	221.62	227	12.7	6	10039052
K518 240-215	240	215	25.4	231.62	237	12.7	6	10021750
K518 X 250-225	250	225	25.4	241.62	247	12.7	6	10039053
K518 250-230	250	230	31.5	246	249.4	9.2	6	10021752
K518 260-235	260	235	35.4	252.9	257	12.7	6	10021753
K518 300-275	300	275	31.5	296	299	6.6	6	10021757