

Resim Drawing	Alp Kod Code	Ürün Adı Product Name	Malzeme Material	Sertlik (Shore A) Hardness	Kullanım Alanı Application	Çalışma Basıncı (Bar) (Max) Working Pressure	Çalışma Sıcaklığı (C°) (Max) Working Temperature	Kayma Hızı (Max) Sliding Speed	Sayfa Page
	A101	PİSTON BOĞAZ NUTRING U-RING ROD PISTON	NBR PU	90 92	PİSTON-BOĞAZ PISTON-ROD	160 400	-30+105 -30+100	0.5 0.5	36-55
	A102	PİSTON NUTRING U-RING PISTON	NBR PU	90 92	PİSTON PISTON	160 400	-30+105 -30+100	0.5 0.5	56-59
	A103	AĞIR HİZMET PİSTON KEÇESİ HEAVY DUTY PISTON SEAL	NBR PTFE+BRONZE POM	80 - -	PİSTON PISTON	400	-30+105	1.5	60-61
	A104	KOMPAKT SET COMPACT SEAL	NBR FABRIC NBR POM	80 - -	PİSTON PISTON	400	-30+105	0.5	62-63
	A105	KOMPAKT SET COMPACT SEAL	NBR TPE POM/POM+CAM ELYAF POM / GLASS FILLED POM	80 - -	PİSTON PISTON	400	-30+105	0.5	64-69
	A106	PİSTON KEÇESİ PISTON SEAL	PU NBR POM	98 80 -	PİSTON PISTON	400	-30+105	0.5	70-71
	A107	PİSTON BOĞAZ KEÇESİ ROD PISTON SEAL	NBR FABRIC NBR	80 -	PİSTON-BOĞAZ PISTON-ROD	250	-30+105	0.5	72-75
	A108	PİSTON NUTRING U-RING PISTON	PU POM	92 -	PİSTON PISTON	400	-30+100	0.5	76-77
	A109	KOMPAKT SET COMPACT SEAL	NBR TPE POM+CAM ELYAF GLASS FILLED POM	80 - -	PİSTON PISTON	700	-30+105	0.5	78-79
	A110	PİSTON KEÇESİ PISTON SEAL	NBR PU	80 98	PİSTON PISTON	400	-30+100	0.5	80-83
	A120	PACKING V-PACK ROD	NBR FABRIC NBR POM	90 - -	BOĞAZ ROD	400	-30+105	0.5	84-87
	A121	PACKING V-PACK PISTON	FABRIC NBR POM	- -	PİSTON PISTON	400	-30+105	0.5	88-89
	A122	PACKING V-PACK ROD	NBR FABRIC NBR POM	90 - -	BOĞAZ ROD	400	-30+105	0.5	90-91
	A123	PİSTON KEÇESİ PISTON SEAL	NBR PU	70 98	PİSTON PISTON	400	-30+100	0.5	92-93

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HİDROLİK SIZDIRMAZLIK ELEMANLARI / HYDRAULIC SEALING ELEMENTS

	A124	PİSTON KEÇESİ PISTON SEAL	NBR SAC+YAY METAL+SPRING	90 -	PİSTON PISTON	60	-30+105	0.5	94-95
	A127	AĞIR HİZMET PİSTON KEÇESİ HEAVY DUTY PISTON SEAL Z CUTTED	NBR PA+CAM ELYAF GLASS FILLED PA	80 -	PİSTON PISTON	800	-30+105	1.0	96-99
	A151	BOĞAZ NUTRING U-RING ROD	NBR PU	90 92	BOĞAZ ROD	160 400	-30+105 -30+100	0.5 0.5	100-105
	A152	AĞIR HİZMET BOĞAZ KEÇESİ HEAVY DUTY U-RING ROD	PU POM NBR	92 - 70	BOĞAZ ROD	600	-30+100	0.5	106-109
	A153	BOĞAZ NUTRING U-RING ROD	PU POM	92 -	BOĞAZ ROD	400	-30+100	0.5	110-113
	A154	BOĞAZ NUTRING U-RING ROD	PU	92	BOĞAZ ROD	400	-30+100	0.5	114-123
	A155	BOĞAZ KEÇESİ ROD SEAL	NBR TPE POM	80 - -	BOĞAZ ROD	700	-30+105	0.5	124-125
	A156	BOĞAZ KEÇESİ ROD SEAL	NBR FABRIC NBR POM	80 - -	BOĞAZ ROD	400	-30+105	0.5	126-131
	A157	BOĞAZ NUTRING U-RING ROD	PU	92	BOĞAZ ROD	400	-30+100	0.5	132-135
	A159	BOĞAZ KEÇESİ ROD SEAL	PU NBR	98 70	BOĞAZ ROD	500	-30+105	0.5	136-139
	A161	YÜKSEK PERFORMANSLI BOĞAZ NUTRING HIGH PERFORMANCE U-RING ROD	PU	95	BOĞAZ ROD	400	-35+110	0.5	140-145
	A162	YÜKSEK PERFORMANSLI AĞIR HİZMET BOĞAZ KEÇESİ HIGH PERFORMANCE HEAVY DUTY U-RING ROD	PU POM NBR	95 - 70	BOĞAZ ROD	600	-30+100	0.5	146-149
	A163	YÜKSEK PERFORMANSLI BOĞAZ NUTRING HIGH PERFORMANCE U-RING ROD	PU POM	95 -	BOĞAZ ROD	400	-30+100	0.5	150-153
	A164	YÜKSEK PERFORMANSLI BOĞAZ NUTRING HIGH PERFORMANCE U-RING ROD	PU	95	BOĞAZ ROD	400	-35+110	0.5	154-163
	A167	YÜKSEK PERFORMANSLI BOĞAZ NUTRING HIGH PERFORMANCE U-RING ROD	PU	95	BOĞAZ ROD	400	-35+110	0.5	164-167

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HİDROLİK SIZDIRMAZLIK ELEMANLARI / HYDRAULIC SEALING ELEMENTS

	A168	YÜKSEK PERFORMANSLI PİSTON NUTRING HIGH PERFORMANCE U-RING PISTON	PU POM	95 -	PİSTON PISTON	400	-30+100	0.5	168-169
	A171	YÜKSEK PERFORMANSLI PİSTON BOĞAZ NUTRING HIGH PERFORMANCE U-RING ROD PISTON	PU	95	PİSTON-BOĞAZ PISTON-ROD	400	-35+110	0.5	170-189
	A172	YÜKSEK PERFORMANSLI PİSTON NUTRING HIGH PERFORMANCE U-RING PISTON	PU	95	PİSTON PISTON	400	-35+110	0.5	190-193
	A181	BOĞAZ NUTRING U-RING ROD	NBR	90	BOĞAZ ROD	160	-30+105	0.5	194-195
	A209	ÖN BASINÇ RİNGİ BUFFER RING	PU POM	92 -	BOĞAZ ROD	400	-30+100	0.5	196-197
	A269	YÜKSEK PERFORMANSLI ÖN BASINÇ RİNGİ HIGH PERFORMANCE BUFFER RING	PU POM	95 -	BOĞAZ ROD	400	-30+100	0.5	198-199

TOZ KEÇELERİ / WIPERS

	A201	TOZ KEÇESİ WIPER	PU	92	BOĞAZ ROD	-	-30+100	1.0	202-203
	A202	TOZ KEÇESİ WIPER	NBR PU	90 92	BOĞAZ ROD	-	-30+105 -30+100	1.0	204-211
	A204	TOZ KEÇESİ WIPER	NBR PU	90 92	BOĞAZ ROD	-	-30+105 -30+100	1.0	212-215
	A205	NUTRING DUDAKLI TOZ KEÇESİ DOUBLE WIPER	NBR PU	90 92	BOĞAZ ROD	-	-30+105 -30+100	1.0	216-219
	A206	AĞIR HİZMET TOZ KEÇESİ HEAVY DUTY WIPER	TPE	-	BOĞAZ ROD	-	-40+120	1.0	220-227
	A208	NUTRING DUDAKLI TOZ KEÇESİ DOUBLE WIPER	NBR PU	90 92	BOĞAZ ROD	-	-30+105 -30+100	1.0	228-231
	A211	AĞIR HİZMET KAZIYICI KEÇE HEAVY DUTY SCRAPER SEAL	PA	-	BOĞAZ ROD	-	-40+100	1.0	232-233
	A262	YÜKSEK PERFORMANSLI TOZ KEÇESİ HIGH PERFORMANCE WIPER	PU	95	BOĞAZ ROD	-	-35+110	1.0	234-241
	A268	YÜKSEK PERFORMANSLI NUTRING DUDAKLI TOZ KEÇESİ HIGH PERFORMANCE DOUBLE WIPER	PU	95	BOĞAZ ROD	-	-35+110	1.0	242-245

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YATAKLAMA ELEMANLARI / GUIDE ELEMENTS

	A251	PİSTON BOĞAZ YATAKLAMA PISTON ROD GUIDE RING	POM+CAM ELYAF GLASS FILLED POM	-	PİSTON-BOĞAZ PISTON-ROD	-	-40+110	1.0	248-255
	A255	POLYESTER RESİN YATAKLAMA POLYESTER RESIN GUIDE RING	POLYESTER RESIN	-	PİSTON-BOĞAZ PISTON-ROD	-	-30+120	1.0	256-259
	A256	FENOLİK RESİN YATAKLAMA PHENOLIC RESIN GUIDE RING	PHENOLIC RESIN	-	PİSTON-BOĞAZ PISTON-ROD	-	-30+120	1.0	260-263
	ABT	BRONZLU TEFLON BANT YATAKLAMA BRONZE-PTFE GUIDE STRIP	PTFE+BRONZE	-	PİSTON-BOĞAZ PISTON-ROD	-	-60+200	15	264-267
	AKT	KARBONLU TEFLON BANT YATAKLAMA CARBON-PTFE GUIDE STRIP	PTFE+CARBON	-	PİSTON-BOĞAZ PISTON-ROD	-	-60+200	15	268-269
	APR	POLYESTER RESİN BANT YATAKLAMA POLYESTER RESIN GUIDE STRIP	POLYESTER RESIN	-	PİSTON-BOĞAZ PISTON-ROD	-	-30+120	1.0	270-271

PTFE SIZDIRMAZLIK ELEMANLARI / PTFE SEALING ELEMENTS

	A301	PİSTON KEÇESİ PISTON SEAL	PTFE+BRONZE NBR	- 70	PİSTON PISTON	400	-30+105	5.0	274-279
	A302	PİSTON KEÇESİ SINGLE ACTING PISTON SEAL	PTFE+BRONZE NBR	- 70	PİSTON PISTON	400	-30+105	5.0	280-283
	A303	ANTİ KONTAMİNASYON PİSTON KEÇESİ ANTI CONTAMINATION PISTON SEAL	PTFE+CARBON	-	PİSTON BOĞAZ PISTON ROD	-	-45+220	5.0	284-287
	A304	ROTARY ROD KEÇESİ ROTARY ROD SEAL	PTFE+BRONZE NBR	- 70	BOĞAZ ROD	300	-30+105	5.0	288-291
	A305	TOZ KEÇESİ WIPER	PTFE+BRONZE NBR	70	BOĞAZ ROD	-	-30+105	5.0	292-295
	A306	PİSTON KEÇESİ PISTON SEAL	PTFE+BRONZE NBR	- 70	PİSTON PISTON	400	-30+105	2.0	296-299
	A307	ROTARY PİSTON KEÇESİ ROTARY PISTON SEAL	PTFE+BRONZE NBR	- 70	PİSTON PISTON	300	-30+105	5.0	300-303
	A311	BOĞAZ KEÇESİ ROD SEAL	PTFE+BRONZE NBR	- 70	BOĞAZ ROD	400	-30+105	5.0	304-309

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STATİK SIZDIRMAZLIK ELEMANLARI / STATIC SEALING ELEMENTS

	A402	FLANŞ KEÇESİ FLANGE SEAL	PU	92	-	630	-30+100	—	312-313
	A403	KAPAK KEÇESİ COVER SEAL	PU	95	-	630	-35+110	—	314-315
	A404	KAPAK KEÇESİ COVER SEAL	PU	95	-	630	-35+110	—	316-319
	A405	STATİK SIZDIRMAZLIK KEÇESİ STATIC SEAL	PU	92	-	500	-30+100	—	320-321

PNÖMATİK SIZDIRMAZLIK ELEMANLARI / PNEUMATIC SEALING ELEMENTS

	A801	PNÖMATİK PİSTON KEÇESİ PNEUMATIC PISTON SEAL	NBR SAC NBR SHEET METAL	80 -	PİSTON PISTON	16	-30+105	1.0	324-327
	A802	PNÖMATİK PİSTON KEÇESİ PNEUMATIC PISTON SEAL	NBR PU	80 85	PİSTON PISTON	12 16	-30+105 -30+80	1.0 1.0	328-329
	A803	PNÖMATİK PİSTON KEÇESİ SHORT STROKE PNEUMATIC PISTON SEAL	NBR	70	PİSTON PISTON	12	-30+105	1.0	330-331
	A804	TEK ETKİLİ PNÖMATİK PİSTON KEÇESİ SINGLE ACTING PNEUMATIC PISTON SEAL	NBR ALUMINUM	70	PİSTON PISTON	12	-30+105	1.0	332-333
	A805	PNÖMATİK PİSTON KEÇESİ PNEUMATIC PISTON SEAL	NBR ALUMINUM	70	PİSTON PISTON	12	-30+105	1.0	334-335
	A807	PNÖMATİK PİSTON KEÇESİ PNEUMATIC PISTON SEAL	NBR PU	80 85	PİSTON PISTON	12 16	-30+105 -30 + 80	1.0 1.0	336-337
	A808	PNÖMATİK PİSTON KEÇESİ PNEUMATIC PISTON SEAL	NBR	70	PİSTON PISTON	12	-30+105	1.0	338-339
	A810	PNÖMATİK PİSTON KEÇESİ PNEUMATIC PISTON SEAL	NBR	70	PİSTON PISTON	12	-30+105	1.0	340-341
	A852	PNÖMATİK TOZ BOĞAZ KEÇESİ PNEUMATIC WIPER ROD SEAL	PU	92	BOĞAZ ROD	16	-30+80	1.0	342-343
	A853	PNÖMATİK TOZ BOĞAZ KEÇESİ PNEUMATIC WIPER ROD SEAL	NBR PU	90 92	BOĞAZ ROD	12 16	-30+105 -30+80	1.0 1.0	344-345
	A854	AĞIR HİZMET PNÖMATİK TOZ BOĞAZ KEÇESİ HEAVY DUTY PNEUMATIC ROD WIPER	NBR/TPE PU/TPE	80 92	BOĞAZ ROD	16 16	-30+105 -30+80	1.0 1.0	346-347
	A855	PNÖMATİK YASTIKLAMA KEÇESİ PNEUMATIC CUSHIONING SEAL	PU NBR	92 90	BOĞAZ ROD	16 12	-30+80 -30+105	1.0 1.0	348-349



MONAK
RUBBER WORLD
OIL SEALS



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Rod Seals



T20
Material PU
Speed 0,5 m/s
Pressure 40Mpa
Temperature -30°C/+110°C



T22
Material PU
Speed 0,5 m/s
Pressure 40Mpa
Temperature -30°C/+110°C



T23
Material PU+POM
Speed 0,1 m/s
Pressure 50Mpa
Temperature -30°C/+110°C



T24
Material PU
Speed 0,5 m/s
Pressure 40Mpa
Temperature -30°C/+110°C



NI150
Material NBR
Speed 0,5 m/s
Pressure 10Mpa
Temperature -30°C/+100°C



NI250
Material NBR+POM
Speed 0,5 m/s
Pressure 25Mpa
Temperature -30°C/+100°C



NI300
Material PU
Speed 0,5 m/s
Pressure 40Mpa
Temperature -30°C/+110°C



NI400
Material NBR-FABRIC+POM
Speed 0,5 m/s
Pressure 40Mpa
Temperature -30°C/+100°C



OMS-S
Material PTFE+NBR
Speed 5 m/s
Pressure 40Mpa
Temperature -30°C/+100°C



OMS-MR
Material PTFE+NBR/FKM
Speed 5 m/s
Pressure 40Mpa
Temperature -30°C/+200°C



FOI
Material PTFE+Steel
Speed 15 m/s
Pressure 30Mpa
Temperature -200°C/+260°C



TM20 Large Size
Material PU
Speed 0,5 m/s
Pressure 40Mpa
Temperature -30°C/+110°C



KI310
Material PU
Speed 0,5 m/s
Pressure 40Mpa
Temperature -30°C/+110°C



KI320
Material PU+POM
Speed 0,1 m/s
Pressure 50Mpa
Temperature -30°C/+110°C



KI520
Material NBR-FABRIC+POM
Speed 0,5 m/s
Pressure 50Mpa
Temperature -30 °C/+100°C



LF300
Material PU
Speed 0,5 m/s
Pressure 32Mpa
Temperature -30°C/+110°C



SYPRIM SM
Material PU+POM
Speed 0,5 m/s
Pressure 40Mpa
Temperature -30°C/+110°C



S8
Material NBR-FABRIC
Speed 0,5 m/s
Pressure 25Mpa
Temperature -30°C/+100°C



S25
Material NBR-FABRIC+POM
Speed 0,5 m/s
Pressure 50Mpa
Temperature -30°C/+100°C



ES/ESV
Material NBR/FKM
Speed 0,5 m/s
Pressure 40Mpa
Temperature -30°C/+140°C



TFMI
Material PTFE+NBR
Speed 2 m/s
Pressure 16Mpa
Temperature -30°C/+100°C



0214/0216
Material NBR-FABRIC+POM
Speed 0,5 m/s
Pressure 40Mpa
Temperature -30°C/+100°C

Piston Seals



SIMKO300
Material PU+NBR
Speed 5 m/s
Pressure 40Mpa
Temperature -30°C/+110°C



SIMKO320
Material NBR-FABRIC+PA
Speed 0,5 m/s
Pressure 40Mpa
Temperature -30°C/+100°C



SIMKO520
Material NBR-FABRIC+PA
Speed 0,5 m/s
Pressure 50Mpa
Temperature -30°C/+100°C



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NA150

Material **NBR**
Speed 0,5 m/s

Pressure 10Mpa
Temperature -30°C/+110°C



NA250

Material **NBR+POM**
Speed 0,5 m/s

Pressure 25Mpa
Temperature -30°C/+100°C



NA300

Material **PU**
Speed 0,5 m/s

Pressure 40Mpa
Temperature -30°C/+110°C



NA400

Material **NBR-FABRIC+POM**
Speed 0,5 m/s

Pressure 40Mpa
Temperature -30°C/+100°C



T18

Material **PU+POM**
Speed 0,5 m/s

Pressure 40Mpa
Temperature -30°C/+110°C



T19

Material **PU+POM**
Speed 0,5 m/s

Pressure 21Mpa
Temperature -30°C/+110°C



OMK-E

Material **PTFE+NBR/FKM**
Speed 5 m/s

Pressure 40Mpa
Temperature -30°C/+200°C



OMK-MR

Material **PTFE+NBR/FKM**
Speed 5 m/s

Pressure 40Mpa
Temperature -30°C/+200°C



OMK-S

Material **PTFE+NBR**
Speed 5 m/s

Pressure 40Mpa
Temperature -30°C/+100°C



OMK-ES

Material **PTFE+NBR**
Speed 5 m/s

Pressure 30Mpa
Temperature -40°C/+100°C



L27

Material **PTFE+NBR+POM**
Speed 1,5 m/s

Pressure 50Mpa
Temperature -30°C/+100°C



L43

Material **NBR+TPE+PA**
Speed 0,5 m/s

Pressure 40Mpa
Temperature -30°C/+100°C



TDUOH

Material **NBR+Metal**
Speed 0,5 m/s

Pressure 7Mpa
Temperature -30°C/+110°C



TFMA

Material **PTFE+NBR**
Speed 2 m/s

Pressure 16Mpa
Temperature -30°C/+100°C



EK/EKV

Material **NBR/FKM**
Speed 0,5 m/s

Pressure 40Mpa
Temperature -30°C/+140°C



FOA

Material **PTFE+Steel**
Speed 15 m/s

Pressure 30Mpa
Temperature -200°C/+260°C

WIPERS



AS

Material **NBR+Metal**
Speed 2 m/s

Temperature -30°C/+100°C



ASOB

Material **NBR**
Speed 2 m/s

Temperature -30°C/+100°C



AUAS

Material **PU+Metal**
Speed 2 m/s

Temperature -30°C/+110°C



AUAS R

Material **PU+Metal**
Speed 2 m/s

Temperature -30°C/+110°C



AUASOB

Material **PU**
Speed 2 m/s

Temperature -30°C/+110°C



AUPS

Material **PU+Metal**
Speed 2 m/s

Temperature -30°C/+110°C



PT1

Material **PTFE+NBR/FKM**
Speed 5 m/s

Temperature -30°C/+200°C



PT2

Material **PTFE+NBR/FKM**
Speed 5 m/s

Temperature -30°C/+200°C



PU5

Material **PU**
Speed 2 m/s

Temperature -30°C/+110°C



PU6

Material **PU**
Speed 2 m/s

Temperature -30°C/+110°C



PU7

Material **PU+Metal**
Speed 2 m/s

Temperature -30°C/+110°C



PU11

Material **PU**
Speed 2 m/s

Temperature -30°C/+110°C



P6

Material **NBR/FKM**
Speed 2 m/s

Temperature -30°C/+200°C



P8

Material **NBR**
Speed 2 m/s

Temperature -30°C/+100°C



P9

Material **NBR**
Speed 2 m/s

Temperature -30°C/+100°C



GUIDE RINGS



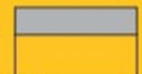
SBK
Material **HARD FABRIC**
Speed 1 m/s
Pressure $\leq 80\text{N/mm}^2$ at 60°C
Temperature -40°C/+120°C



KBK
Material **HARD FABRIC**
Speed 1 m/s
Pressure $\leq 80\text{N/mm}^2$ at 60°C
Temperature -40°C/+120°C



SB
Material **HARD FABRIC**
Speed 1 m/s
Pressure $\leq 50\text{N/mm}^2$ at 120°C
Temperature -40°C/+120°C



KB
Material **HARD FABRIC**
Speed 1 m/s
Pressure $\leq 50\text{N/mm}^2$ at 120°C
Temperature -40°C/+120°C



KF/SF
Material **PTFE Bronze**
Speed 5 m/s
Pressure $\leq 15\text{N/mm}^2$ at 20°C
Temperature -40°C/+200°C



EKF
Material **Polyamide**
Speed 1 m/s
Pressure $\leq 25\text{N/mm}^2$ at 20°C
Temperature -30°C/+100°C



FRI
Material **Filled Polyamide**
Speed 1 m/s
Pressure $\leq 40\text{N/mm}^2$ at 20°C
Temperature -30°C/+100°C



FRA
Material **Filled Polyamide**
Speed 1 m/s
Pressure $\leq 40\text{N/mm}^2$ at 20°C
Temperature -30°C/+100°C

Rotary Shaft Seals



BA/ BAU/ BAUX2
Material **NBR**
Speed 10 m/s
Pressure 0,05Mpa
Temperature -40°C/+110°C



BAUSL/ BAUSLX2/ BASL
Material **NBR**
Speed 10 m/s
Pressure 0,05Mpa
Temperature -40°C/+110°C



BAUMX7
Material **FKM**
Speed 10 m/s
Pressure 0,05Mpa
Temperature -25°C/+160°C



BAUMSLX7
Material **FKM**
Speed 10 m/s
Pressure 0,05Mpa
Temperature -25°C/+160°C



BAFUDX7
Material **NBR**
Speed 10 m/s
Pressure 0,02Mpa
Temperature -40°C/+110°C



BAFUDSLX7
Material **NBR**
Speed 10 m/s
Pressure 0,02Mpa
Temperature -40°C/+110°C



B1/ B1U/ B1FUD
Material **NBR/FKM**
Speed 10 m/s
Pressure 0,05Mpa
Temperature -40°C/+110°C



B1USL/ B1SL/ B1FUDSL
Material **NBR/FKM**
Speed 10 m/s
Pressure 0,02Mpa
Temperature -40°C/+110°C



B2/ B2U/ B2FUD
Material **NBR/FKM**
Speed 10 m/s
Pressure 0,05Mpa
Temperature -40°C/+110°C



B2USL/ B2SL/ B2FUDSL
Material **NBR/FKM**
Speed 10 m/s
Pressure 0,02Mpa
Temperature -40°C/+110°C



B2PT
Material **PTFE**
Speed 30 m/s
Pressure 0,1Mpa
Temperature -80°C/+200°C



BABSL
Material **NBR/FKM**
Speed 0,1 m/s
Pressure 10Mpa
Temperature -40°C/+110°C



BAOF
Material **NBR**
Speed 6 m/s
Temperature -40°C/+100°C



B1OF
Material **NBR**
Speed 6 m/s
Temperature -40°C/+100°C



R35
Material **NBR/FKM/HNBR**
Speed 25 m/s
Pressure 0,05Mpa
Temperature -30°C/+180°C



R36
Material **NBR/FKM/HNBR**
Speed 25 m/s
Pressure 0,05Mpa
Temperature -30°C/+180°C



R37
Material **NBR/FKM/HNBR**
Speed 25 m/s
Pressure 0,05Mpa
Temperature -30°C/+180°C



R58
Material **NBR/FKM**
Speed 25 m/s
Pressure 0,05Mpa
Temperature -30°C/+180°C



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ROD SEALS



TDI

Material **PU+PTFE**
Speed 1 m/s

Pressure 45Mpa
Temperature -35°C/+100°C



EVD

Material **PU+PTFE**
Speed 1 m/s

Pressure 36Mpa
Temperature 0°C/+80°C



TDT

Material **PU**
Speed 1 m/s

Pressure 30Mpa
Temperature -35°C/+100°C



NDT

Material **PU**
Speed 1 m/s

Pressure 25Mpa
Temperature -35°C/+100°C



TDMI

Material **PU+PTFE**
Speed 1 m/s

Pressure 25Mpa
Temperature -35°C/+100°C



GGDI

Material **NBR+POM+PTFE**
Speed 1 m/s

Pressure 45Mpa
Temperature -35°C/+100°C



GGDI-SP

Material **NBR+POM+PTFE**
Speed 1 m/s

Pressure 45Mpa
Temperature -35°C/+100°C



ZSDI

Material **NBR+POM+Bronze**
Speed 1 m/s

Pressure 45Mpa
Temperature -35°C/+100°C



GODI

Material **PTFE+NBR/FKM**
Speed 1 m/s

Pressure 36Mpa
Temperature -35°C/+200°C



GDSI

Material **PTFE+NBR/FKM**
Speed 1 m/s

Pressure 36Mpa
Temperature -35°C/+200°C



GODI-SP

Material **PTFE+NBR/FKM**
Speed 1 m/s

Pressure 36Mpa
Temperature -35°C/+200°C

PISTON SEALS



GD1000K

Material **NBR+PTFE+Hytrel**
Speed 1 m/s

Pressure 45Mpa
Temperature -45°C/+120°C



GKD

Material **NBR+PTFE+Hytrel**
Speed 1 m/s

Pressure 45Mpa
Temperature -35°C/+100°C



GD2000P

Material **NBR+POM+PTFE**
Speed 1 m/s

Pressure 45Mpa
Temperature -30°C/+80°C



TDA

Material **PU+PTFE**
Speed 1 m/s

Pressure 45Mpa
Temperature -35°C/+100°C



TDMA

Material **PU+PTFE**
Speed 1 m/s

Pressure 25Mpa
Temperature -35°C/+100°C



GGDA

Material **NBR+POM+PTFE**
Speed 1 m/s

Pressure 45Mpa
Temperature -35°C/+100°C



ZSDA

Material **NBR+PTFE+Bronze**
Speed 1 m/s

Pressure 45Mpa
Temperature -35°C/+100°C



GODA

Material **PTFE+NBR/FKM**
Speed 1 m/s

Pressure 36Mpa
Temperature -35°C/+100°C



GDSA

Material **PTFE+NBR/FKM**
Speed 1 m/s

Pressure 36Mpa
Temperature -35°C/+100°C



GODA-SP

Material **PTFE+NBR/FKM**
Speed 1 m/s

Pressure 45Mpa
Temperature -36°C/+100°C

WIPERS



AI

Material **Hytrel/FKM**
Speed 1 m/s

Temperature -45°C/+200°C



AID

Material **Hytrel**
Speed 1 m/s

Temperature -45°C/+110°C



AIST

Material **NBR**
Speed 1 m/s

Temperature -35°C/+100°C



A-EIS

Material **Brass+NBR+Steel**
Speed 1 m/s

Temperature -35°C/+100°C



A-EIS-S

Material **Bronze+PU+POM**
Speed 1 m/s

Temperature -35°C/+100°C



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Piston Seals



50 Metric

Material NBR+PA+POM
Speed 0,5 m/s

Pressure 35Mpa
Temperature -30°C/+100°C



51 Metric

Material NBR-FABRIC+POM
Speed 0,5 m/s

Pressure 70Mpa
Temperature -30°C/+100°C



52

Material NBR-FABRIC
Speed 0,8 m/s

Pressure 60Mpa
Temperature -30°C/+110°C



53 Metric & Inch

Material NBR+PA+POM
Speed 0,5 m/s

Pressure 50Mpa
Temperature -30°C/+100°C



54 Metric & Inch

Material PTFE+NBR/FKM
Speed 4 m/s

Pressure 35Mpa
Temperature -30°C/+200°C



56 Metric & Inch

Material NBR-FABRIC
Speed 0,5 m/s

Pressure 50Mpa
Temperature -30°C/+100°C



58 Metric & Inch

Material NBR-FABRIC+POM
Speed 0,5 m/s

Pressure 70Mpa
Temperature -30°C/+100°C



64

Material NBR+PA+POM
Speed 0,5 m/s

Pressure 40Mpa
Temperature -30°C/+100°C



65 Metric & Inch

Material NBR+POM
Speed 0,5 m/s

Pressure 16Mpa
Temperature -30°C/+100°C



68 Inch

Material NBR+PA+POM
Speed 0,5 m/s

Pressure 50Mpa
Temperature -30°C/+100°C



77 Metric & Inch

Material NBR+POM
Speed 0,5 m/s

Pressure 35Mpa
Temperature -30°C/+100°C



714 Metric & Inch

Material NBR+Nylon
Speed 2 m/s

Pressure 50Mpa
Temperature -40°C/+110°C



730

Material TPE+NBR+POM
Speed 0,3 m/s

Pressure 70Mpa
Temperature -40°C/+110°C



735 Metric & Inch

Material PTFE+NBR/FKM
Speed 1,5 m/s

Pressure 50Mpa
Temperature -40°C/+120°C



753

Material PU+NBR+POM
Speed 0,5 m/s

Pressure 40Mpa
Temperature -30°C/+100°C



780

Material TPE+NBR+POM
Speed 0,5 m/s

Pressure 40Mpa
Temperature -30°C/+100°C



754 Metric & Inch

Material TPE+NBR
Speed 1 m/s

Pressure 35Mpa
Temperature -40°C/+110°C



755 Inch

Material TPE+NBR
Speed 1 m/s

Pressure 35Mpa
Temperature -40°C/+110°C



764 Metric & Inch

Material TPE+NBR
Speed 1 m/s

Pressure 25Mpa
Temperature -30°C/+110°C



770 Inch

Material TPE+NBR
Speed 1 m/s

Pressure 35Mpa
Temperature -40°C/+110°C



775 Inch

Material TPE+NBR
Speed 1 m/s

Pressure 35Mpa
Temperature -30°C/+110°C



606 Metric & Inch

Material PU
Speed 1 m/s

Pressure 40Mpa
Temperature -45°C/+110°C



659 Metric & Inch

Material PU
Speed 1 m/s

Pressure 40Mpa
Temperature -45°C/+110°C

GUIDE RINGS



506 Metric & Inch

Material HARD FABRIC
Speed 5 m/s

Loading $\leq 80\text{N/mm}^2$ at 60°C
Temperature -40°C/+120°C



533 Inch

Material PA+Glass
Speed 5 m/s

Loading $\leq 40\text{N/mm}^2$ at 60°C
Temperature -40°C/+120°C



87

Material PTFE Bronze
Speed 5 m/s

Loading $\leq 20\text{N/mm}^2$ at 20°C
Temperature -50°C/+200°C





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NA150

Material **NBR**
Speed 0,5 m/s

Pressure 10Mpa
Temperature -30°C/+110°C



NA250

Material **NBR+POM**
Speed 0,5 m/s

Pressure 25Mpa
Temperature -30°C/+100°C



NA300

Material **PU**
Speed 0,5 m/s

Pressure 40Mpa
Temperature -30°C/+110°C



NA400

Material **NBR-FABRIC+POM**
Speed 0,5 m/s

Pressure 40Mpa
Temperature -30°C/+100°C



T18

Material **PU+POM**
Speed 0,5 m/s

Pressure 40Mpa
Temperature -30°C/+110°C



T19

Material **PU+POM**
Speed 0,5 m/s

Pressure 21Mpa
Temperature -30°C/+110°C



OMK-E

Material **PTFE+NBR/FKM**
Speed 5 m/s

Pressure 40Mpa
Temperature -30°C/+200°C



OMK-MR

Material **PTFE+NBR/FKM**
Speed 5 m/s

Pressure 40Mpa
Temperature -30°C/+200°C



OMK-S

Material **PTFE+NBR**
Speed 5 m/s

Pressure 40Mpa
Temperature -30°C/+100°C



OMK-ES

Material **PTFE+NBR**
Speed 5 m/s

Pressure 30Mpa
Temperature -40°C/+100°C



L27

Material **PTFE+NBR+POM**
Speed 1.5 m/s

Pressure 50Mpa
Temperature -30°C/+100°C



L43

Material **NBR+TPE+PA**
Speed 0,5 m/s

Pressure 40Mpa
Temperature -30°C/+100°C



TDOUH

Material **NBR+Metal**
Speed 0,5 m/s

Pressure 7Mpa
Temperature -30°C/+110°C



TFMA

Material **PTFE+NBR**
Speed 2 m/s

Pressure 16Mpa
Temperature -30°C/+100°C



EK/EKV

Material **NBR/FKM**
Speed 0,5 m/s

Pressure 40Mpa
Temperature -30°C/+140°C



FOA

Material **PTFE+Steel**
Speed 15 m/s

Pressure 30Mpa
Temperature -200°C/+260°C

WIPERS



AS

Material **NBR+Metal**
Speed 2 m/s

Temperature -30°C/+100°C



ASOB

Material **NBR**
Speed 2 m/s

Temperature -30°C/+100°C



AUAS

Material **PU+Metal**
Speed 2 m/s

Temperature -30°C/+110°C



AUAS R

Material **PU+Metal**
Speed 2 m/s

Temperature -30°C/+110°C



AUASOB

Material **PU**
Speed 2 m/s

Temperature -30°C/+110°C



AUPS

Material **PU+Metal**
Speed 2 m/s

Temperature -30°C/+110°C



PT1

Material **PTFE+NBR/FKM**
Speed 5 m/s

Temperature -30°C/+200°C



PT2

Material **PTFE+NBR/FKM**
Speed 5 m/s

Temperature -30°C/+200°C



PU5

Material **PU**
Speed 2 m/s

Temperature -30°C/+110°C



PU6

Material **PU**
Speed 2 m/s

Temperature -30°C/+110°C



PU7

Material **PU+Metal**
Speed 2 m/s

Temperature -30°C/+110°C



PU11

Material **PU**
Speed 2 m/s

Temperature -30°C/+110°C



P6

Material **NBR/FKM**
Speed 2 m/s

Temperature -30°C/+200°C



P8

Material **NBR**
Speed 2 m/s

Temperature -30°C/+100°C



P9

Material **NBR**
Speed 2 m/s

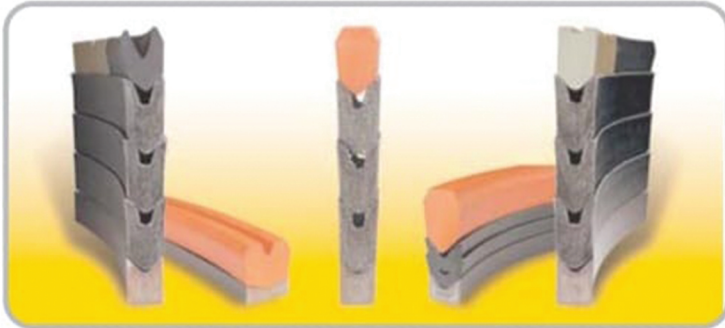
Temperature -30°C/+100°C



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CARCO[®]TEX



CARCOTEX/UN



CARCOTEX/SG



CARCOTEX/UG



CARCOTEX/SL



CARCO TEX / SP



CARCO TEX / SP / SG



CARCO WIP

CARCO[®] SEAL



CARCOSEAL/AP



CARCOSEAL/AP/WT



CARCOSEAL/TM



CARCOSEAL/LDS



CARCOSEAL/LA



CARCOSEAL/UN/LL



CARCOSEAL/ATLMP[®]



CARCOSEAL/UN



CARCOSEAL/SCA



**CARCOSEAL/UN/SPLIT
CARCOSEAL/SCA/SPLIT**



**CARCOSEAL/UN/SF
CARCOSEAL/SCA/SF**

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RADIAL SHAFT SEALS

**SC**Material **NBR+ACM+MWQ+FKM** Pressure **10Mpa**
Speed **0,03 m/s** Temperature **-30°C/+100°C****SB**Material **NBR+ACM+MWQ+FKM** Pressure **10Mpa**
Speed **0,03 m/s** Temperature **-30°C/+100°C****VC**Material **NBR**
Speed **6 m/s** Temperature **-30°C/+100°C****VB**Material **NBR**
Speed **6 m/s** Temperature **-30°C/+100°C****SA1J**Material **PTFE** Pressure **0,3Mpa**
Speed **15 m/s** Temperature **-50°C/+200°C****VAJ**Material **PTFE** Pressure **0,1Mpa**
Speed **30 m/s** Temperature **-50°C/+200°C****TCV**Material **NBR/FKM** Pressure **0,3Mpa**
Speed **10 m/s** Temperature **-15°C/+150°C****TCN**Material **NBR/FKM** Pressure **1Mpa**
Speed **10 m/s** Temperature **-15°C/+150°C****TC4**Material **NBR** Pressure **0,5Mpa**
Speed **1,5 m/s** Temperature **-10°C/+80°C****TB4**Material **NBR** Pressure **0,5Mpa**
Speed **1,5 m/s** Temperature **-10°C/+80°C****SBB**Material **NBR** Pressure **0,03Mpa**
Speed **25 m/s** Temperature **-20°C/+80°C****SB**Material **NBR** Pressure **0,03Mpa**
Speed **15 m/s** Temperature **-20°C/+80°C****TB**Material **NBR** Pressure **0,03Mpa**
Speed **15 m/s** Temperature **-20°C/+80°C****TC**Material **NBR+ACM+MVQ+FKM** Pressure **0,03Mpa**
Speed **10 m/s** Temperature **-30°C/+100°C****TB**Material **NBR+ACM+MVQ+FKM** Pressure **0,03Mpa**
Speed **10 m/s** Temperature **-30°C/+100°C****KC**Material **NBR** Temperature **-30°C/+100°C**
Speed **6 m/s****KB**Material **NBR** Temperature **-30°C/+100°C**
Speed **6 m/s****TCJ**Material **ACM/NBR+PTFE** Pressure **0,1Mpa**
Speed **20 m/s** Temperature **-25°C/+130°C****DC**Material **ACM/NBR** Pressure **0,03Mpa**
Speed **10 m/s** Temperature **-30°C/+100°C****DB**Material **ACM/NBR** Pressure **0,03Mpa**
Speed **10 m/s** Temperature **-30°C/+100°C****QLFY**Material **PU+Metal** Pressure **0,03Mpa**
Speed **2 m/s** Temperature **-30°C/+100°C****VR**Material **NBR/FKM** Temperature **-20°C/+150°C**
Speed **10 m/s****ZF**Material **NBR** Temperature **-20°C/+80°C**
Speed **3 m/s****ZT**Material **NBR** Temperature **-20°C/+80°C**
Speed **3 m/s****MG**Material **NBR** Temperature **-20°C/+80°C**
Speed **5 m/s**

WIPERS

**DKB**Material **NBR/FKM+Metal** Temperature **-55°C/+150°C**
Speed **2 m/s****DKBI**Material **PU+Metal** Temperature **-55°C/+100°C**
Speed **2 m/s****DKH**Material **NBR/FKM+Metal** Temperature **-55°C/+150°C**
Speed **2 m/s****DKI**Material **PU+Metal** Temperature **-55°C/+100°C**
Speed **2 m/s****DWI**Material **PU+Metal** Temperature **-55°C/+100°C**
Speed **2 m/s****DWIR**Material **PU+Metal** Temperature **-55°C/+100°C**
Speed **2 m/s****LBH**Material **NBR/FKM** Temperature **-55°C/+150°C**
Speed **2 m/s****LBI**Material **PU** Temperature **-35°C/+100°C**
Speed **2 m/s****DSI**Material **PU** Temperature **-35°C/+100°C**
Speed **2 m/s****DLI**Material **PU+Metal** Temperature **-35°C/+100°C**
Speed **2 m/s****DLI2**Material **PU+Metal** Temperature **-35°C/+100°C**
Speed **2 m/s****VAY**Material **PU** Temperature **-55°C/+110°C**
Speed **2 m/s**

GUIDE RINGS

**WR**Material **HARD FABRIC** Pressure $\leq 50\text{N/mm}^2$ at 60°C
Speed **1,5 m/s** Temperature **-40°C/+120°C****RYT**Material **PTFE Bronze** Pressure $\leq 15\text{N/mm}^2$ at 20°C
Speed **1,5 m/s** Temperature **-55°C/+200°C**



ROD SEALS

	605 Metric & Inch Material PU Speed 1 m/s	Pressure 40Mpa Temperature -45°C/+110°C
	621 Metric & Inch Material PU+NBR+POM Speed 1 m/s	Pressure 70Mpa Temperature -45°C/+110°C
	610 Material PU Speed 1 m/s	Pressure 40Mpa Temperature -45°C/+110°C
	652 Material PU+NBR+POM Speed 1 m/s	Pressure 70Mpa Temperature -45°C/+110°C
	16 / RB 24M Material PTFE+NBR/FKM Speed 4 m/s	Pressure 40Mpa Temperature -30°C/+180°C
	620 Inch Material PU+NBR Speed 1 m/s	Pressure 40Mpa Temperature -45°C/+110°C
	616 Material PU Speed 1 m/s	Pressure 25Mpa Temperature -45°C/+110°C
	663 Material PU Speed 1 m/s	Pressure 40Mpa Temperature -45°C/+110°C
	653 Metric & Inch Material PU+POM Speed 1 m/s	Pressure 70Mpa Temperature -45°C/+110°C

WIPERS

	33 Metric & Inch Material NBR Speed 4 m/s	Temperature -30°C/+100°C
	38 Material TPE Speed 4 m/s	Temperature -40°C/+120°C
	335 Material PTFE+NBR/FKM Speed 5 m/s	Temperature -30°C/+180°C
	520 Inch Material PU Speed 4 m/s	Temperature -45°C/+110°C
	831 Metric Material PU Speed 4 m/s	Temperature -45°C/+110°C
	862 Material PU+Metal Speed 1 m/s	Temperature -40°C/+100°C
	834 Material PU Speed 4 m/s	Temperature -45°C/+110°C
	839 Material NBR Speed 4 m/s	Temperature -45°C/+110°C
	842 Metric & Inch Material PU Speed 4 m/s	Temperature -45°C/+110°C
	844 Material PU Speed 4 m/s	Temperature -45°C/+110°C
	846 Material PU Speed 4 m/s	Temperature -45°C/+110°C
	860 Material PU+Metal Speed 1 m/s	Temperature -40°C/+100°C

SYMMETRIC SEALS

	18 Metric & Inch Material NBR-FABRIC Speed 0,5 m/s	Pressure 50Mpa Temperature -30°C/+100°C
	15 Material NBR-FABRIC Speed 0,5 m/s	Pressure 30Mpa Temperature -30°C/+100°C
	511 Inch Material TPE+NBR Speed 0,5 m/s	Pressure 35Mpa Temperature -40°C/+110°C
	512 Inch Material TPE+NBR Speed 0,5 m/s	Pressure 35Mpa Temperature -40°C/+110°C
	513 Inch Material TPE+NBR Speed 0,5 m/s	Pressure 35Mpa Temperature -40°C/+110°C
	601 Metric & Inch Material PU Speed 1 m/s	Pressure 40Mpa Temperature -45°C/+110°C
	Vee Pack Metric & Inch Material NBR/FKM Speed 0,5 m/s	Pressure 70Mpa Temperature -25°C/+150°C



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OTHER SEALS



OBVD-ax
Material **NBR+PU**
Speed **1 m/s**

Pressure **50Mpa**
Temperature **-30°C/+100°C**



OBVD-2ax
Material **NBR+PU**
Speed **1 m/s**

Pressure **50Mpa**
Temperature **-30°C/+100°C**



KKP

Material **Complete Piston Hydraulic** Pressure **45Mpa**
Speed **1 m/s** Temperature **-35 °C/+100°C**



KKH

Material **Complete Piston Hydraulic** Pressure **45Mpa**
Speed **1 m/s** Temperature **-45 °C/+120°C**



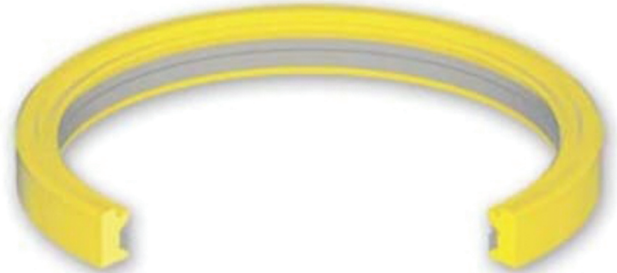
DMD Tandem 2000
Material **PU+PTFE+NBR**
Speed **0,5 m/s**

Pressure **40Mpa**
Temperature **-30°C/+120°C**

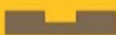


DMD

Material **NBR/POM/PTFE** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+120°C**

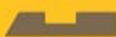


GUIDE RINGS



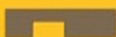
FI

Material **POM+PTFE+Bronze** Pressure $\leq 78\text{N/mm}^2$ at **60°C**
Speed **3 m/s** Temperature **-55°C/+120°C**



FAI

Material **POM+PTFE+Bronze** Pressure $\leq 78\text{N/mm}^2$ at **60°C**
Speed **3 m/s** Temperature **-55°C/+120°C**



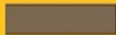
FA

Material **POM+PTFE+Bronze** Pressure $\leq 78\text{N/mm}^2$ at **60°C**
Speed **3 m/s** Temperature **-55°C/+120°C**



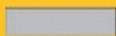
RFI

Material **POM+PTFE+Bronze** Pressure $\leq 78\text{N/mm}^2$ at **60°C**
Speed **3 m/s** Temperature **-55°C/+120°C**



RFA

Material **POM+PTFE+Bronze** Pressure $\leq 78\text{N/mm}^2$ at **60°C**
Speed **3 m/s** Temperature **-55°C/+120°C**



PFB

Material **PTFE Bronze** Pressure $\leq 20\text{N/mm}^2$ at **20°C**
Speed **3 m/s** Temperature **-200°C/+200°C**



RS 85
Material **NBR/FKM/HNBR+Metall** Pressure **0,05Mpa**
Speed **25 m/s** Temperature **-30°C/+180°C**



RHS 51
Material **NBR/FKM/HNBR+Metall** Pressure **0,05Mpa**
Speed **35 m/s** Temperature **-30°C/+180°C**



M15
Material **PTFE+NBR/FKM** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+150°C**



M16
Material **PTFE+NBR/FKM** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+150°C**



M17
Material **NBR/FKM** Pressure **10Mpa**
Speed **1 m/s** Temperature **-15°C/+150°C**



M19
Material **NBR/FKM** Pressure **40Mpa**
Speed **0,2 m/s** Temperature **-15°C/+150°C**

SPECIAL RADIAL SHAFT SEALS



CASSETTE SEAL TYP 1
Material **NBR/FKM** Pressure **0,05Mpa**
Speed **9 m/s** Temperature **-25°C/+100°C**



CASSETTE SEAL TYP 2
Material **NBR/FKM** Pressure **0,05Mpa**
Speed **7 m/s** Temperature **-25°C/+100°C**



CASSETTE SEAL TYP 3
Material **NBR/FKM** Pressure **0,05Mpa**
Speed **6 m/s** Temperature **-25°C/+100°C**



COMBI SEAL
Material **NBR/FKM** Pressure **0,05Mpa**
Speed **5 m/s** Temperature **-25°C/+80°C**



COMBI SEAL SF5
Material **NBR/FKM** Pressure **0,05Mpa**
Speed **10 m/s** Temperature **-25°C/+100°C**



COMBI SEAL SF6
Material **NBR/FKM** Pressure **0,02Mpa**
Speed **10 m/s** Temperature **-40°C/+110°C**



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2018

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PREFERRED PARTNER**

O-Pak Ithalat Ihracat Ltd. Sti.

is given the award for first-class customer orientation:
Outstanding performance in consulting, sales and service

January 2018

Dr. Alexander Roemán
CEO Industrial Services Division

FREUDENBERG
SEALING TECHNOLOGIES

FREUDENBERG
INNOVATING TOGETHER



Piston Seals

	ODI Material PU Speed 0,5 m/s	Pressure 30-70Mpa Temperature -35°C/+100°C
	OSI Material PU Speed 0,5 m/s	Pressure 30-40Mpa Temperature -35°C/+100°C
	OUIS Material PU Speed 1 m/s	Pressure 30-40Mpa Temperature -10°C/+110°C
	OUHR Material NBR Speed 1 m/s	Pressure 21Mpa Temperature -55°C/+80°C
	SPG Material PTFE+NBR/FKM Speed 1,5 m/s	Pressure 35Mpa Temperature -40°C/+160°C
	SPGW Material PTFE+NBR/FKM Speed 1,5 m/s	Pressure 50Mpa Temperature -40°C/+160°C
	SPGC Material PTFE+NBR/FKM Speed 1,5 m/s	Pressure 2Mpa Temperature -30°C/+160°C
	SPGO Material PTFE+NBR/FKM Speed 1,5 m/s	Pressure 35Mpa Temperature -30°C/+160°C
	SPGI Material PU+NBR Speed 1 m/s	Pressure 21Mpa Temperature -40°C/+80°C
	CPI Material PU Speed 0,3 m/s	Pressure 7Mpa Temperature -35°C/+100°C
	CPH Material NBR Speed 0,3 m/s	Pressure 3,5Mpa Temperature -25°C/+100°C

Rod Seals

	IDI Material PU Speed 1 m/s	Pressure 30-70Mpa Temperature -35°C/+100°C
	ISI Material PU Speed 1 m/s	Pressure 30-40Mpa Temperature -30°C/+110°C
	IUH Material NBR Speed 1 m/s	Pressure 21Mpa Temperature -25°C/+125°C
	UNI Material PU+MVQ Speed 1 m/s	Pressure 42Mpa Temperature -45°C/+100°C
	SPNO Material PTFE+NBR/FKM Speed 1,5 m/s	Pressure 35Mpa Temperature -30°C/+160°C
	SPN Material PTFE+NBR/FKM Speed 1,5 m/s	Pressure 35Mpa Temperature -40°C/+160°C
	SPNC Material PTFE+NBR/FKM Speed 1,5 m/s	Pressure 2Mpa Temperature -30°C/+160°C
	HBY Material PU+POM Speed 1 m/s	Pressure 50Mpa Temperature -55°C/+100°C
	HBTS Material PTFE+NBR/FKM Speed 1,5 m/s	Pressure 35Mpa Temperature -55°C/+160°C

Symmetric Seals

	UPI Material PU Speed 1 m/s	Pressure 35Mpa Temperature -35°C/+100°C
	USI Material PU Speed 1 m/s	Pressure 25Mpa Temperature -35°C/+100°C
	UPH Material NBR/FKM Speed 1 m/s	Pressure 32Mpa Temperature -25°C/+150°C
	USH Material NBR/FKM Speed 1 m/s	Pressure 25Mpa Temperature -55°C/+150°C
	V99F Material Fabric+NBR/FKM Speed 1 m/s	Pressure 30Mpa Temperature -25°C/+180°C
	V96H Material NBR/FKM Speed 0,5 m/s	Pressure 30Mpa Temperature -25°C/+150°C

HALLITE SEAL DESIGN AND SELECTION INDEX

PROFILE DESIGNATION	Page	Profile	Maximum Pressure bar	Temperature Range °C	Maximum Speed m/sec
DOUBLE-ACTING PISTON SEALS					
714	37		500	-40°C +110°C	1.0
730	43		700	-40°C +110°C	0.3
754	53		350 500*	-40°C +110°C	1.0
764	59		250	-30°C +110°C	1.0
780	63		400	-30°C +100°C	0.5
NOTE	*Pressure rating of seal design can be extended by the use of a face seal in TPE 051 material. If this option is required, please seek advice from your local Hallite office.				
SINGLE-ACTING PISTON SEALS					
606	73		400 700*	-45°C +110°C	1.0
659	79		400	-45°C +110°C	1.0
NOTE	*Pressure rating of seal design can be extended by the use of a back-up ring. If this option is required, please seek advice from your local Hallite office.				
SINGLE-ACTING ROD AND PISTON SEALS					
601	85		400 700*	-45°C +110°C	1.0
NOTE	*Pressure rating of seal design can be extended by the use of a back-up ring. If this option is required, please seek advice from your local Hallite office.				
UNITISED PISTON					
720	101		350	-30°C +100°C	1.0
ROD SEALS					
605	107		400 700*	-45°C +110°C	1.0
610	131		400	-45°C +110°C	1.0
616	137		240	-45°C +110°C	1.0
621	143		700	-45°C +110°C	1.0
652	151		700	-45°C +110°C	1.0
663	159		400 700*	-45°C +110°C	1.0
673	165		400 700*	-45°C +110°C	1.0
NOTE	*Pressure rating of seal design can be extended by the use of a back-up ring. If this option is required, please seek advice from your local Hallite office.				

HALLITE SEAL DESIGN AND SELECTION INDEX

PROFILE DESIGNATION	Page	Profile	Maximum Pressure bar	Temperature Range °C	Maximum Speed m/sec
ROD BUFFER SEALS					
653	173		700	-45°C +110°C	1.0
660	177		700	-45°C +110°C	1.0
WIPERS					
37	183		-	-30°C +100°C	1.0
38	191		-	-40°C +120°C	4.0
831	203		-	-45°C +110°C	4.0
834	209		-	-45°C +110°C	4.0
839	213		-	-45°C +110°C	4.0
839N	217		-	-45°C +110°C	4.0
842	223		-	-45°C +110°C	4.0
844	229		-	-45°C +110°C	4.0
846	233		-	-45°C +110°C	4.0
847	237		-	-40°C +100°C	4.0
860	241		-	-40°C +100°C	1.0
864	249		-	-45°C +110°C	1.0
NOTE	Additional wiper seals are available upon request and include ranges for standard American grooves. 37, 831, 834, 839, 839N, and 846 wipers are produced in materials capable of operating at temperatures below 0°C but are not designed to scrape ice.				
BEARINGS					
87	257		-	-50°C +200°C	5.0
506	261		-	-40°C +120°C	5.0
533	269		-	-40°C +120°C	5.0
708	271		-	-40°C +100°C	5.0
NOTE	87, 506, 533, and 708 wear strips are also suitable for oscillating and rotary applications. 506 is available in three different formats: spiral lengths, cut rings, and flat coils.				



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HALLITE SEAL DESIGN AND SELECTION INDEX

PROFILE DESIGNATION	Page	Profile	Maximum Pressure bar	Temperature Range °C	Maximum Speed m/sec
SWIVEL SEALS					
80	275		350	-30°C +80°C	0.1
800	279		350	-30°C +80°C	0.2
ADDITIONAL PRODUCTS					
155	285		500	-30°C +100°C	Static
657	289		600	-45°C +110°C -30°C +100°C*	Static
668	293		500	-45°C +110°C	
NOTE		*Temperature range based on material option selected.			

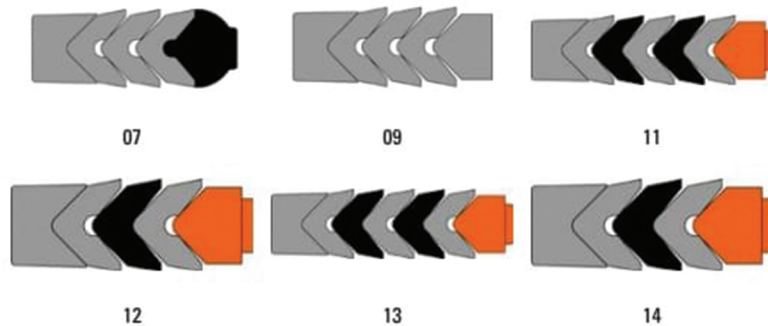
LEGACY PRODUCTS - METRIC

Over our 110 year history, Hallite has offered a range of products to service the fluid power industry. Some of these products are still recognised as the industry standard. Some have been eclipsed by new engineering knowledge and material advances or adjusted and fine-tuned based on testing in the laboratory and in the field.

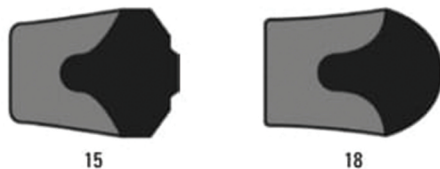
Below are our legacy products. Many of these profiles have been replaced by more modern designs. These products are still available in some regions but the tooling range may be limited. For a list of sizes, please see the legacy section of the yellow pages in the back of this catalogue.

We advise customers who still purchase these items to meet with their local sales or engineering team to discuss if there is a superior Hallite product for your application.

VEE PACKS



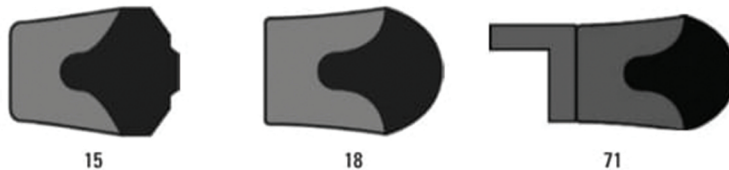
ROD SEALS



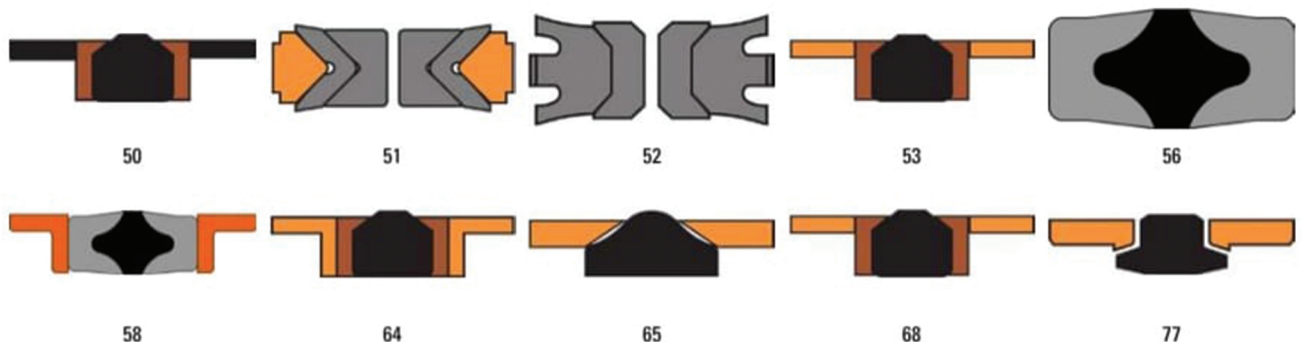
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SINGLE-ACTING PISTON SEALS



DOUBLE-ACTING PISTON SEALS



ARMORLENE® PTFE FLUID POWER SEALS PORTFOLIO

Hallite's Armorlene® PTFE portfolio has expanded the range of products we can now supply customers around the world. Developed from material and compound production expertise within Hallite and our sister companies, CDI Energy Products and EGC Critical Components, our PTFE seals come in a complete range of product profiles, forming one of the most comprehensive collections of its kind in the industry. Plus, as with all of our seals, they come with the support of our technical team to provide the advice necessary in developing tailored product solutions.

Because of the size of this new product offering, we have created a separate catalogue for the Armorlene® range. Please refer to the Armorlene® PTFE catalogue and our website for complete information of all technical, material, and part number range information.

ROD SEALS



716SPN



R16



RCG



RDA



RDS



SRB



SRS



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PISTON SEALS



CT



G54



GP2



GPS - ROUND



GPS - SQUARE



P16



P54



PCA



PCG



PDS



PFR

WIPERS



E2W



E5W



ELA



EXF



EXG

SWIVEL SEALS



SSP



SSR

Some profile designations previously included in our standard catalogue may have been superseded by new PTFE profile designations and will no longer be included in this catalogue. Below are the product groups that have been affected.

NEW PROFILE DESIGNATION	SUPERSEDES LEGACY PRODUCT
CT	735
E2W	335
E5W	335
G54	54
P16	355
P54	54, 454

NEW PROFILE DESIGNATION	SUPERSEDES LEGACY PRODUCT
PFR	455
PME	90 PSTM
R16	16, 416
RDA	316
SSR	310

HALLITE SERVICE® MACHINED SEALS

In addition to our extensive range of catalogue products, Hallite Service®, our quick turnaround custom machined seals department, has the ability to produce an infinite number of profiles using the latest CAD/CAM and CNC machines to produce rubber and plastic parts to the customers' drawings or by utilising one of the 100+ computerized profiles as individual pieces or in economical small series

Many situations in the fluid power industry require an immediate response and rapid manufacturing and delivery for your urgent repair or prototyping needs. Whether you require a custom profile and material or customised solution of one of our standard profiles, we can ensure the highest quality product at an economical cost due to small batch, lower mould and tooling costs, and minimal manufacturing time. Instances where Hallite Service® benefits customers the most are:

- Machinery breakdown
- Non-standard seal dimensions
- Prototyping
- Discontinued spare parts
- Material change due to non-standard or aggressive media

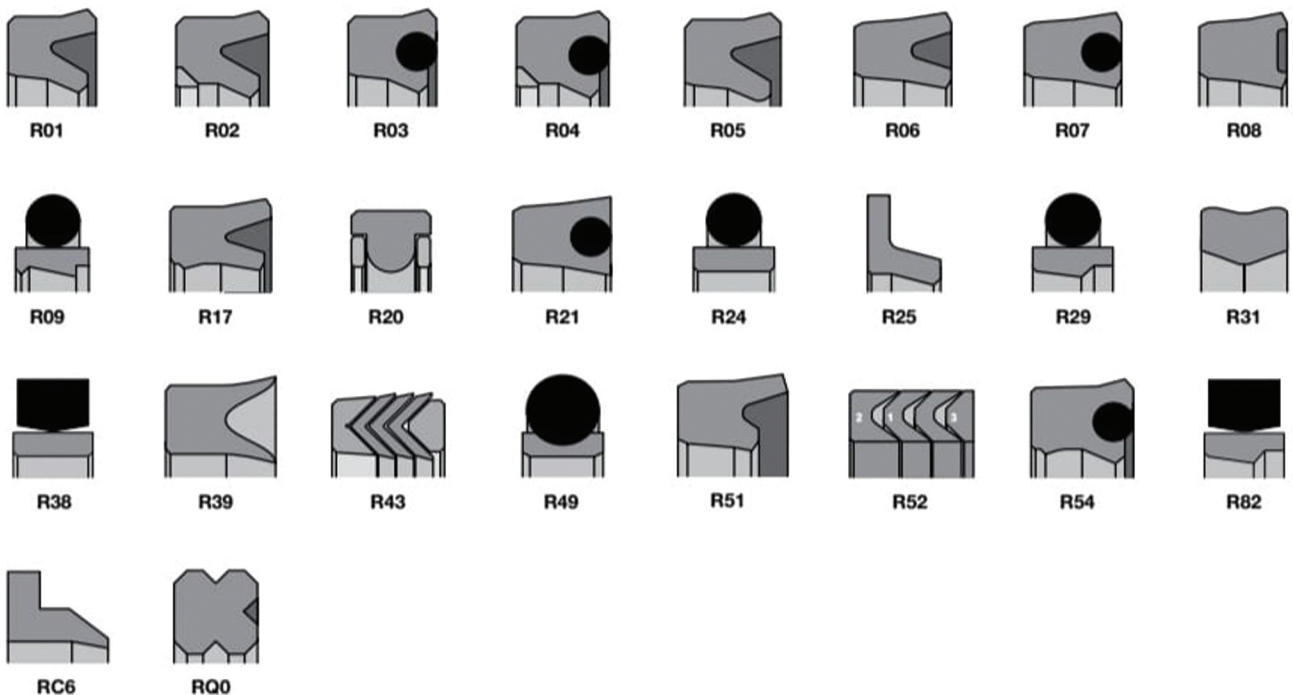
Hallite Service® products can be manufactured from 6.35 mm (0.25 in) to over 1320 mm (52.00 in) in a wide range of application-specific specialty elastomers and high performance plastics.

Hallite Service® centres are located close to customers in a number of countries in Australia, Europe, North America, and China.

Below you can find a small selection of our vast range of custom machined parts. If you do not see the profile you need here, contact our Hallite Service® team for a complete list of machined seal profiles.

For a custom seal quotation, submit your seal specifications and requirements online at www.hallite.com/hallite-service or contact your local Hallite Service® office for a physical order form.

ROD SEALS





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HALLITE SERVICE® MACHINED SEALS

PISTON SEALS



P01



P02



P03



P04



P05



P06



P07



P09



P16



P17



P18



P20



P22



P23



P24



P27



P32



P38



P40



P41



P51



P54



P66



PC6



PDS

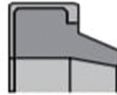
WIPERS



W01



W02



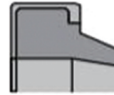
W03



W04



W05



W06



W07



W08



W11



W12



W13



W14



W15



W16



W23

BEARINGS



G13



G23



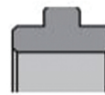
G33



G43



G53



G63



G73



G83

BACK-UP RINGS



B01



B03



B04



B05



B06



B09



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HALLITE SERVICE® MACHINED SEALS

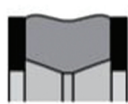
ROTARY SEALS



S01



S02



S03



S04



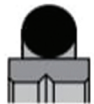
S05



S06



S07



S10



S11



S12



S21



S22



S24



S25



S26



S29

MATERIALS

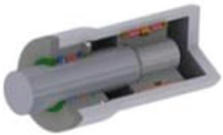
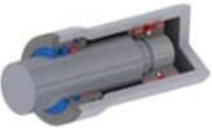
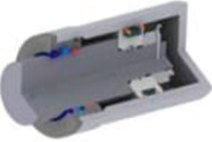
Hallite Service® custom machined seals come in a variety of material. Contact your local office to find out which material best suits your chosen profile and applications. These can include:

- Polyurethane
- Polyester
- NBR Rubber
- HNBR Rubber
- FPM/FKM/Viton®
- POM
- PA
- PTFE
 - Virgin PTFE
 - Bronze-filled PTFE
 - Carbon-filled PTFE
 - Glass-filled PTFE
- EPDM Rubber
- Silicon Rubber

CYLINDER HOUSING AND SEAL OPTIONS

The following diagrams illustrate how Hallite's wide range of products can be applied to a selection of some of the most popular cylinder designs servicing the world's fluid power industry. Below are cylinders used in standard applications and our recommendations for typical sealing solutions. Please note that cylinder renderings may not accurately reflect the recommendations listed. They are for illustrative purposes only.

If the application which you are interested in is of a non-standard nature please contact Hallite's technical department.

Cylinder Type	Wiper	Rod Seal	Rod Bearing	Buffer
Crane Cylinder	842	716SPN	506	R16 Bronze
				
Excavator Cylinder	847	652	506	653 or SRB
				
Fork Lift Cylinder	846	663	506	-
				-
Grapple Cylinder	842	621	506	-
				-
Agriculture Cylinder	831 or 834	605	506	-
				-



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Gland Static Seal	Anti-dieseling Ring	Piston Bearing	Piston Seal	Piston Static Seal
155	-	506	730	O-ring & 2 Back ups
				
O-ring & Back up or 155	87	506	CT or 714	O-ring & 2 Back ups
				
				
O-ring	-	506	754	O-ring
				
155	-	-	720	-
				
O-ring & Back up	-	-	780	O-ring & 2 Back ups
				



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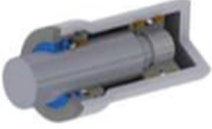
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CYLINDER HOUSING AND SEAL OPTIONS

Cylinder Type	Wiper	Rod Seal	Rod Bearing	Buffer
High Temperature Cylinder	E2W	R16 Bronze	87	R16 Bronze
				
Injection Molding Machine Cylinder	846	616	87	R16 Glass
				
Roof Support Cylinder	38 or 842	652	708	-
				-
Backhoe Cylinder	844	663	506	653
				



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Gland Static Seal	Anti-dieseling Ring	Piston Bearing	Piston Seal	Piston Static Seal
O-ring & Back up	-	87	P54 Bronze	O-ring & 2 Back ups
				
O-ring	-	87	G54	O-ring
				
155	-	708	730	-
				
PU O-ring	-	506	754 or 714	PU O-ring
				

Kastaş No	Product Name	Drawing	Application	Material	Code	Pressure (max) bar	Temperature (max) °C	Sliding Speed (max)-m/s	Page
Pneumatic Rod Sealing Elements									
K30	Pneumatic Rod Seal		Rod	NBR STEEL	NB7001 FE9901	16	-30/+105	1.0	40
K51	Pneumatic Rod Seal		Rod	PU	PU9204	16	-35/+100	1.0	42
K52	Pneumatic Rod Seal		Rod	PU	PU9201	16	-35/+100	1.0	44
				NBR	NB9001	12	-30/+105		
K53	Pneumatic Cushioning Seal		Rod	PU	PU9201	16	-35/+100	1.0	46
				NBR	NB9001	12	-30/+105		
K56	Pneumatic Rod Seal		Rod	NBR TPE	NB8001 TP5501	16	-30/+100	1.0	48
K64	Pneumatic Rod Seal		Rod	PU	PU9201	16	-30/+100	1.0	50
K106	Pneumatic Rod Seal		Rod	NBR	NB8001	12	-30/+105	1.0	52
K130	Pneumatic Rod Seal		Rod	NBR	NB8001	12	-30/+105	1.0	54
K67	Pneumatic Rod Seal		Rod	NBR	NB7001	10	-30/+105	1.0	56
K109	Pneumatic Rod Seal		Rod	NBR	NB7001	16	-30/+105	1.0	56
K131	Pneumatic Rod Seal		Rod	NBR	NB7501	16	-30/+105	1.0	56
K715	Pneumatic Rod Seal		Rod	PTFE NBR	PT6005 NB7001	16	-30/+105	4.0	57

Kastaş No	Product Name	Drawing	Application	Material	Code	Pressure (max) bar	Temperature (max) °C	Sliding Speed (max)-m/s	Page
HYDRAULIC PISTON SEALING ELEMENTS									
XT300	Piston Seal		Piston	PU	PU9401	400	-35/+100	0.5	140
K03	Piston Packing		Piston	FABRIC NBR POM	FB8001 PM9903	400	-30/+100	0.5	142
K15	Piston Seal		Piston	PU NBR	PU9401 NB7001	250	-30/+100	0.5	144
K16	Compact Piston Seal		Piston	NBR FABRIC NBR POM	NB8001 FB8001 PM9901	400	-30/+100	0.5	148
K17X	High Performance Piston Sea		Piston	PTFE NBR	PT6003 NB7001	400	-30/+105	15.0	151
K17	Piston Seal		Piston	PTFE NBR	PT6003 NB7001	400	-30/+105	15.0	156
K18	Compact Piston Seal		Piston	NBR TPE POM	NB8001 TP7301 PM9901	400	-30/+100	0.5	162
K19	Heavy Duty Piston Seal		Piston	PTFE NBR POM	PT6003 NB8001 PM9901	400	-30/+100	1.5	169
K23	Piston Seal		Piston	PU	PU9201	400	-40/+100	0.5	172
				NBR	NB9001	150	-30/+105		
K26	Piston Seal		Piston	NBR STEEL SPRING	NB9001 FE9901 CN9901	60	-30/105	0.5	178
K40	Piston Seal		Piston	PU POM	PU9401 PM9901	400	-35/+100	0.5	180
K41	Piston Seal		Piston	PTFE NBR	PT6003 NB7001	400	-30/+105	15.0	182
K42	Compact Piston Seal		Piston	NBR TPE POM	NB8001 TP7301 PM9905	700	-30/+100	0.5	186
K46	Compact Piston Seal		Piston	PU POM NBR	PU9201 PM9901 NB7001	400	-30/100	0.5	212
K48	Compact Piston Seal		Piston	NBR TPE POM	NB8001 TP5501 PM9901	700	-30/+100	0.3	188
K49	Piston Seal		Piston	PU NBR	PU6001 NB8001	400	-30/+100	0.5	190
K501	Piston Seal		Piston	PA NBR	PA9904 NB7001	500	-30/+105	1.0	192
K502	Compact Piston Seal		Piston	NBR FABRIC NBR POM	NB8001 FB8001 PM9901	500	-30/+100	0.5	212

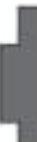
Kastaş No	Product Name	Drawing	Application	Material	Code	Pressure (max) bar	Temperature (max) °C	Sliding Speed (max)-m/s	Page
HYDRAULIC ROD SEALING ELEMENTS									
FR200	Low Friction Rod Seal		Rod	PU	PU9401	400	-35/+100	0.5	73
XT200	Extrusion Resistant Rod Seal		Rod	PU	PU9401	400	-35/+100	0.5	77
K01	Rod Packing		Rod	NBR FABRIC NBR POM	NB9001 FB8001 PM9903 FB9001	400	-30/+100	0.5	82
K22	Rod Seal		Rod	PU	PU9201	400	-40/+100	0.5	86
				NBR	NB9001	150	-35/+105		
K29	Buffer Seal		Rod	PU POM	PU9201 PM9901	400	-40/+100	0.5	90
K31	Heavy Duty Rod Seal		Rod	NBR PU POM	NB7001 PU9401 PM9901	630	-30/+100	0.5	92
K32	Rod Seal		Rod	PU POM	PU9401 PM9901	400	-35/+100	0.5	96
K33	Rod Seal		Rod	PU	PU9401	400	-35/+100	0.5	100
K34	Rod Seal		Rod	NBR FABRIC NBR TPE POM	NB8001 FB8001* TP7301 PM9901	700	-30/+100	0.5	110
K35	Rod Seal		Rod	PTFE NBR	PT6003 NB7001	400	-30/+105	15.0	112
				PU NBR	PU6001 NB7001	400	-30/+100	1.0	
K37	Rod Seal		Rod	NBR FABRIC NBR POM	NB8001 FB8001 PM9901	400	-30/+100	0.5	118
K38	Rod Seal		Rod	PU	PU9401	400	-35/+100	0.5	124
K701	Rod Seal		Rod	PTFE STAINLESS STEEL	PT6005 CN9902	350	-70/+260	15.0	130
K704	Rod Seal		Rod	PTFE NBR	PT6003 NB8001	400	-30/+105	15.0	132
K97	Rod Seal		Rod	HNBR	HB9001	250	-30/+150	0.5	134
K39	Rod Seal		Rod	NBR FABRIC NBR	NB8001 FB8001	250	-30/+100	0.5	134

Kastaş No	Product Name	Drawing	Application	Material	Code	Pressure (max) bar	Temperature (max) °C	Sliding Speed (max)-m/s	Page
PNEUMATIC PISTON SEALING ELEMENTS									
K25	Pneumatic Piston Seal		Piston	NBR STEEL	NB7501 FE9901	16	-30/+105	1.0	62
K50	Pneumatic Piston Seal		Piston	PU	PU8502	16	-20/+80	1.0	66
				NBR	NB8001	12	-30/+105		
K54	Pneumatic Piston Seal		Piston	NBR	NB7001	12	-30/+105	1.0	68
K55	Pneumatic Piston Seal		Piston	NBR ALUMINIUM	NB7001 AL9901	12	-30/+105	1.0	70
K57	Pneumatic Piston Seal		Piston	NBR ALUMINIUM	NB7001 AL9901	12	-30/+105	1.0	72
K58	Pneumatic Piston Seal		Piston	PU POM ALUMINIUM MAGNET NBR	PU9201 PM9901 AL9901 MK9901 NB7001	16	-30/+80	1.0	74
K59F	Pneumatic Piston Seal		Piston	PU	PU8502	16	-20/+80	1.0	77
K59	Pneumatic Piston Seal		Piston	PU	PU8502	16	-20/+80	1.0	80
				NBR	NB8001	12	-30/+105		
K61	Pneumatic Piston Seal		Piston	NBR POM ALUMINIUM NBR	NB8001 PM9901 AL9901 NB7001	12	-30/+100	1.0	82
K62	Pneumatic Piston Seal		Piston	NBR	NB7001	12	-30/+105	1.0	84
K63	Pneumatic Piston Seal		Piston	NBR	NB7001	12	-30/+105	1.0	86
K65	Pneumatic Piston Seal		Piston	NBR	NB7001	12	-30/+105	1.0	88
K66	Pneumatic Piston Seal		Piston	NBR	NB8001	12	-30/+105	1.0	90
K506	Pneumatic Piston Seal		Piston	NBR	NB8501	12	-30/+105	0.5	90
K761	Pneumatic Piston Seal		Piston	PTFE NBR	PT6005 NB7001	16	-30/+105	4.0	90
K160	Pneumatic Piston Seal		Piston	PU	PU9204	16	-30/+100	1.0	91
K161	Pneumatic Piston Seal		Piston	PU	PU9204	16	-30/+100	1.0	91

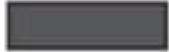
Kastaş No	Product Name	Drawing	Application	Material	Code	Pressure (max) bar	Temperature (max) °C	Sliding Speed (max)-m/s	Page
WIPERS									
K05	Wiper		Rod	PU	PU9401		-35/+110	1.0	218
K06	Wiper		Rod	PU	PU9201		-40/+100	1.0	222
				NBR	NB9001		-30/+105		
K07	Metal Case Wiper		Rod	NBR STEEL	NB9001 FE9901		-30/+100	1.0	226
K07	Metal Case Wiper		Rod	PU STEEL	PU9201 FE9901		-30/+100	1.0	226
K09	Wiper		Rod	PU	PU9201		-40/+100	1.0	228
				NBR	NB9001		-30/+105		
K10	Double Wiper		Rod	NBR	NB9001		-30/+105	1.0	232
K11	Wiper		Rod	TPE	TP5501		-40/+100	2.0	236
K12	Metal Case Wiper		Rod	PU STEEL	PU9501 FE9901		-30/+100	1.0	240
K13	Metal Case Wiper		Rod	PU STEEL	PU9501 FE9901		-30/+100	1.0	242
K27	Double Wiper		Rod	PU	PU9201		-40/+100	1.0	244
				NBR	NB9001		-30/+105		
K94	Wiper		Rod	PU	PU9401		-35/+100	1.0	248
K103	Double Wiper		Rod	PU	PU9201		-40/+100	1.0	250
				NBR	NB9001		-30/+105		
K107	Wiper		Rod	PU	PU9201		-40/+100	1.0	252
K703	Wiper		Rod	PTFE NBR	PT6003 NB7001		-30/+105	5.0	254
K716	Wiper		Rod	PTFE NBR	PT6003 NB7001		-30/+105	5.0	258
K92	Metal Case Wiper		Rod	NBR STEEL BRONZE	NB7001 FE9901 FS9001		-30/+105	1.0	260
K101	External Wiper		Piston	PU	PU9201		-40/+100	1.0	260
K102	Wiper		Rod	PU STEEL	PU9401 FE9901		-35/+100	1.0	260
K105	Wiper		Rod	POM	PM9901		-40/+100	1.0	261
K705	Wiper		Rod	PTFE NBR	PT6003 NB7001		-30/+105	5.0	261
K706	Wiper		Rod	PTFE NBR	PT6003 NB7001		-30/+105	5.0	261

Kastaş No	Product Name	Drawing	Application	Material	Code	Pressure (max) bar	Temperature (max) °C	Sliding Speed (max)-m/s	Page
HYDRAULIC PISTON SEALING ELEMENTS									
K503	Compact Piston Seal		Piston	NBR TPE POM	NB8001 TP7301 PM9901	500	-30/+100	0.5	212
K504	Compact Piston Seal		Piston	NBR STEEL SPRING NBR POM	NB8001 FB8001 PM9901	400	-30/+100	0.5	213
K505	Compact Piston Seal		Piston	NBR STEEL SPRING NBR POM	NB8001 FB8001 PM9901	500	-30/+100	0.5	213
K518	Compact Piston Seal		Piston	NBR TPE POM	NB8001 TP7301 PM9905	400	-30/+100	0.5	198
K518X	High Performance Compact Piston Seal		Piston	NBR TPE PA	NB8001 TP7301 PA9904	400	-30/+100	0.5	197
K751	Piston Seal		Piston	PTFE STAINLESS STEEL	PT6005 CN9902	350	-70/+260	5.0	202
K753	Piston Seal		Piston	PTFE NBR	PT6003 NB7001	400	-30/+105	2.0	204
K755	Piston Seal		Piston	PTFE NBR	PT6003 NB8001	400	-30/+105	5.0	208
K757	Piston Seal		Piston	PTFE NBR	PT6003 NB7001	400	-30/+105	2.0	210

Kastaş No	Product Name	Drawing	Application	Material	Code	Pressure (max) bar	Temperature (max) °C	Sliding Speed (max)-m/s	Page
HYDRAULIC PISTON-ROD SEALING ELEMENTS									
K21	Piston Rod Seal		Piston Rod	PU	PU9201	400	-40/+100	0.5	266
				NBR	NB9001	150	-30/+105		
K36	Piston Rod Seal		Piston Rod	NBR FABRIC NBR	NB8001 FB8001	250	-30/+100	0.5	274
K98	Piston Rod Seal		Piston Rod	PU NBR	PU9201 NB7001	400	-30/+100	0.5	278
K95	Piston Rod Seal		Piston Rod	NBR	NB9001	150	-30/+105	0.5	282
K114	Piston Rod Seal		Piston Rod	PU NBR	PU9401 NB7001	400	-30/+105	0.5	282
KX	X-Ring		Piston Rod	NBR	NB7001	50	-30/+105	0.5	282

Kastaş No	Product Name	Drawing	Application	Material	Code	Pressure (max) bar	Temperature (max) °C	Sliding Speed (max)-m/s	Page
GUIDE ELEMENTS									
K68	Rod Guide Ring		Rod	POM	PM9902		-40/+110	1.0	288
K69	Piston Guide Ring		Piston	POM	PM9902		-40/+110	1.0	294
K73	Piston-Rod Guide Ring		Piston Rod	SYNTHETIC FIBER, POLYESTER RESIN	PR6501		-40/+120	1.0	300
K75	Piston-Rod Guide Ring		Piston Rod	SYNTHETIC FIBER, PHENOLIC RESIN WITH PTFE	PH6501		-40/+130	1.0	308
K78	Piston-Rod Guide Ring		Piston Rod	PHENOLIC ARAMID	PH6504		-40/+200	1.0	312
K79	Piston-Rod Guide Ring		Piston Rod	POLYESTER FIBER, PHENOLIC RESIN GRAPHITE	PH6503		-40/+120	5.0	316
KBT	PTFE, Bronze Guide Strip		Piston Rod	PTFE	PT6003		-200/+260	15.0	318
KKT	Carbon, PTFE Guide Strip		Piston Rod	PTFE	PT6002		-200/+200	15.0	320
KPB	Polyester Resin, Guide Strip		Piston Rod	SYNTHETIC FIBER, POLYESTER RESIN	PR6501		-40/+120	1.0	322
KSB	Piston-Rod Guide Strip		Piston Rod	POLYESTER FIBER, PHENOLIC RESIN	PH6502		-40/+120	1.0	324
K71	Rod Guide Ring		Rod	POM	PM9901		-40/+100	1.0	326
K77	Rod Guide Ring		Rod	POM	PM9901		-40/+100	1.0	326

Kastaş No	Product Name	Drawing	Application	Material	Code	Pressure (max) bar	Temperature (max)°C	Sliding Speed (max)-m/s	Page
PNEUMATIC GUIDE ELEMENTS									
K79	Piston-Rod Guide Rings		Piston Rod	SYNTHETIC FIBER, POLYESTER RESIN, GRAPHITE	PH6503		-40/+120	5.0	96
KKT	Carbon Filled PTFE Guide Strip		Piston Rod	PTFE	PT6002		-200/+200	15.0	98
K70	Piston-Rod Guide Rings		Piston Rod	POM	PM9901		-30/+80	1.0	100

Kastaş No	Product Name	Drawing	Application	Material	Code	Pressure (max) bar	Temperature (max) °C	Sliding Speed (max)-m/s	Page
STATIC SEALING ELEMENTS									
K800	Back-up Ring		Rod	X-Tone	PK7502	600	-30/+120	1.0	332
K81	Back-up Ring		Piston Rod	TPE	TP5501	300	-40/+100	1.0	334
K82	Static Seal			PU	PU9401	600	-35/+110		338
K83	Static Seal			PU	PU9401	600	-35/+110		340
K84	Static Seal			PU	PU9401	600	-35/+110		342
K85	Static Seal			PU	PU9401	500	-35/+110		346
K86	Static Seal			PU	PU9201	500	-40/+100		348
KO	O-ring		Piston Rod	NBR	NB7001	63	-30/+105	0.5	352
K87	Fluid Connector Seal			NBR	NB8501	400	-30/+105		356
K88	Fluid Connector Seal			NBR	NB8001	400	-30/+105		356
K89	Static Seal			PU	PU9401	600	-35/+110		356

Elastomers									
Material Code	Definition	Color		Hardness	Temperature Range (°C)	Product Groups	Approvals and Specifications		Description
NB7001	NBR	Black		70 Shore A	-30/+105	K30, K67, K109, K715, K54, K55, K57, K58, K61, K62, K63, K65, K761		Standart Material	• ACN (Acrylonitrile) oranı en belirleyici detaylardır. • ACN, sertlik, kopma dayanımı ve aşınma dayanımını etkiler. • Bütadiyen kısmı düşük sıcaklık ve elastisite sağlar, aynı zamanda vulkanizasyon için gerekli çift bağ da bütadiyen tarafında bulunur. • Bu nedenle düşük ACN seviyesi daha iyi düşük sıcaklık performansı gösterir. • Çok iyi geriye toplama özelliğine sahiptir, esneklik özelliği ve iyi gaz geçirgenliğine sahiptir. • Mineral yağlar, gres ve yakıtlara dayanımı iyidir. • Alifatik hidrokarbonlara dayanır (Propan, butan).
NB7012	NBR	Black		70 Shore A	-50/+105			Low Temperature	
NB7501	NBR	Black		75 Shore A	-30/+105	K25, 131			
NB8001	NBR	Black		80 Shore A	-30/+105	K56, K106, K130, K50, K59, K61, K66		Standart Material	
NB8010	NBR	Black		80 Shore A	-40/+105			Low Temperature	
NB8501	NBR	Black		85 Shore A	-30/+105	K506			
NB9001	NBR	Black		90 Shore A	-30/+105	K52, K53		Standart Material	
NB9011	NBR	Black		90 Shore A	-40/+105			Low Temperature	
FK7001	FKM	Brown		70 Shore A	-20/+200	K54, K55, K57, K62, K63		High Temperature	• Its resistance to many chemicals is very good. • It is used in systems that require low gas permeability. • It is widely used in iron-steel and automotive industries.
FK7501	FKM	Brown		75 Shore A	-20/+200	K25		High Temperature	
FK8001	FKM	Brown		80 Shore A	-25/+200	K30, K56, K130, K50, K58, K59, K59F		High Temperature	
FK9001	FKM	Brown		90 Shore A	-20/+200	K52, K53, K64, K106, K58		High Temperature	
HB7001	HNBR	Black		70 Shore A	-30/+150		DVGW B2/H3	Standart Material	• HNBR is generally used in production processes that require high temperature resistance. • It has very good mechanical properties and abrasion resistance.
HB7007	HNBR	Black		70 Shore A	-40/+150			Low Temperature	
HB8001	HNBR	Black		80 Shore A	-30/+150			Standart Material	
HB8005	HNBR	Black		80 Shore A	-40/+150			Low Temperature	
HB9001	HNBR	Black		90 Shore A	-30/+150			Standart Material	• Resistance to hot water and water vapor, as well as many acids and alkaline solutions. • EPDM rubber makes it the optimum material for equipment used in the food and beverage industry.
EP700	EPDM	Siyah		70 Shore A	-40/+150				

Table 2.1

Kastaş No	Product Name	Drawing	Application	Material	Code	Pressure (max) bar	Temperature (max) °C	Sliding Speed (max)-m/s	Page
SPECIAL SEALING ELEMENTS									
K702	Rod Seal		Rod	PTFE NBR	PT6003 NB7001	300	-30/+105	5	362
K752	Piston Seal		Piston	PTFE NBR	PT6003 NB7001	300	-30/+105	5	366
K14	V-ring			NBR	NB6010	0.3	-30/+105	12.0	370
K150	Chevron Ring		Rod	FABRIC NBR	FB8502	250	-30/+80	2.0	370
K151	High Pressure Chevron Seal		Rod	FABRIC NBR POM PTFE	FB8502 PM9901 PT6005	400	-30/+80	2.0	370
K152 K153	Low Pressure Chevron Seal		Rod	FABRIC NBR POM	FB8502 PM9901	80	-30/+80	2.0	371
K154	Low Pressure Chevron Seal		Rod	NBR FABRIC NBR	NB9001 FB8504	80	-30/+80	2.0	371
K155	High Pressure Chevron Seal		Rod	POM FABRIC NBR PA	PM9902 FB8502 PA9902	400	-30/+80	2.0	371