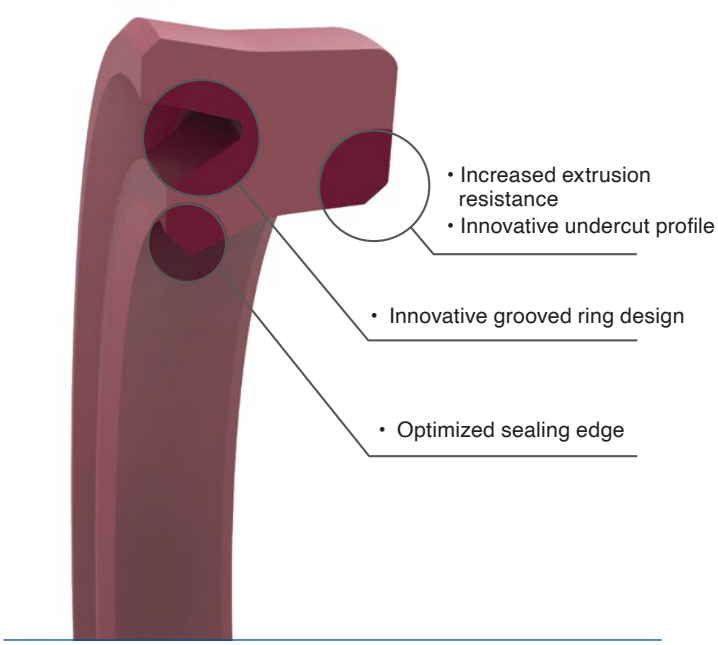
XT200®

Extrusion Resistant Rod Seal

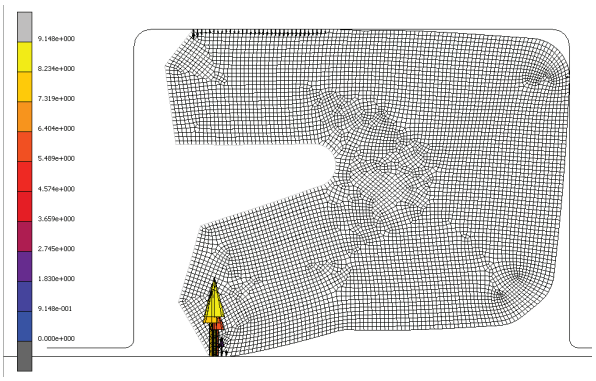
XT200® is a high-performance, single-acting rod seal designed to ensure reliable sealing in heavy-duty hydraulic systems with long strokes, high pressures, and large extrusion gaps. Manufactured from high-strength polyurethane, it fits ISO 5597 standard grooves and outperforms conventional nutring profiles in demanding conditions. For optimal performance under extreme pressure, XT200® is recommended to be used in tandem with a pressure relief ring, providing enhanced sealing safety and system stability.

- **eXTrusion Resistance**
- **High Temperature Resistance**
- **Low Leakage**
- **Long Service Life**



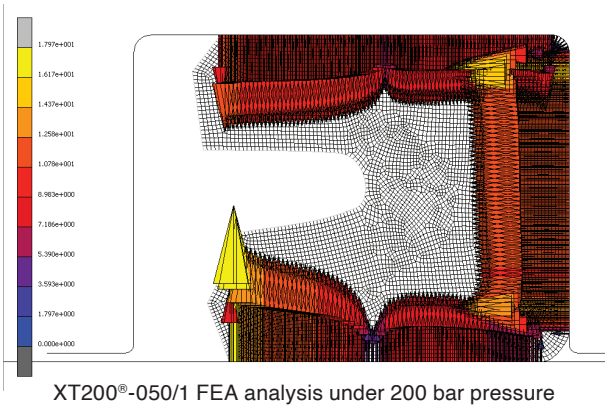
XT200® Finite Element Analysis

XT200® features a lip design with optimized contact forces through FEA analysis, enabling the formation of a thin lubrication film on the rod surface. Its design also offers excellent extrusion resistance under high pressures, ensuring safe and stable operation. Especially in the construction machinery industry, its use under long and demanding conditions makes a significant difference in overall system performance.



XT200®-050/1 pressureless FEA analysis

Picture 4.2



XT200®-050/1 FEA analysis under 200 bar pressure
S extrusion gap: 0.4 mm

Picture 4.3

XT200®

Extrusion Resistant Rod Seal



Advantages

- Good sealing effect
- High extrusion resistance
- Wide temperature range
- Long service life
- Suitable design for telescopic cylinders

Application

- Construction machinery
- Loading platforms
- Injection moulding machines
- Forklifts
- Mobile machinery
- Agricultural machinery

Operating Conditions

MOTION:	Linear		
PRESSURE (bar):	400 bar (max)		
SPEED (m/s):	0.5 m/s (max)		
TEMPERATURE (°C):	-35/+100 °C	+5/+50 °C	-30/+40 °C
MEDIA TYPE:	Mineral Oils	HFA/HFB	HFC

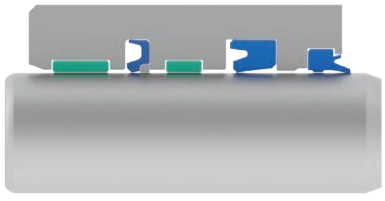
NOTE: The above values (speed, pressure, temperature) are maximum values, all cannot be used at the same time.

Material Information

U-ring	Remarks
Polyurethane-PU9401	Standard produced material code.
Polyurethane-PU9411	Material code used for high temperatures.

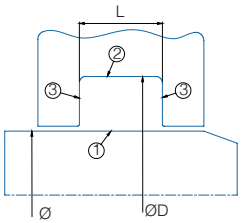
Note: In the special application conditions (temperature, media, etc.) Can be produced from different materials. You can refer to Table 2.10 for details or you can contact our sales department.

Sample Design



NOTE: In heavy duty applications, higher performance and service time can be achieved in tandem use with buffer seal.

Surface Roughness

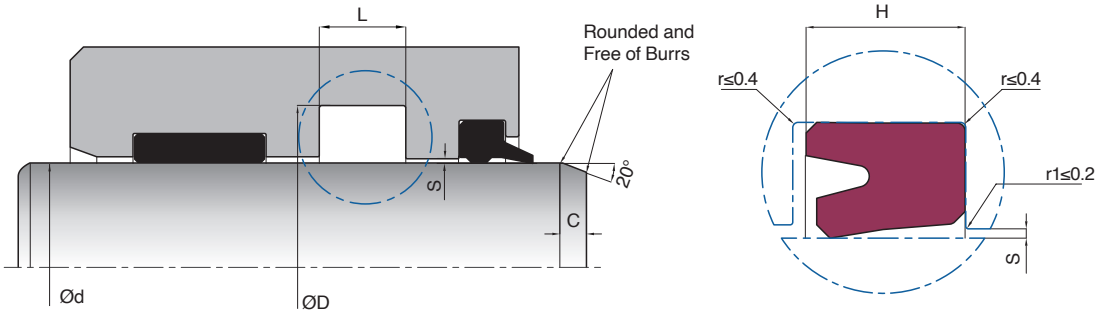


	1 (rod)	2 (groove base)	3 (groove flanks)
Ra	0.1-0.4 μm	0.2-1.6 μm	0.2-3.2 μm
Rmax	< 3.2 μm	< 6.3 μm	< 16 μm
Rmr	When C=0.25xRz on the dynamic work surface and reference line C_{ref}=5%, the working surface contact area should be approximately between 50% and 70%.		

Installation Information

Easily assembled into closed grooves by the rod seal installation tools according to the minimum diameter values that are given in the table 3.2. Open grooves are recommended for the values that are outside this table. It is very important that the assembly tools must be of soft material and have no sharp edges. Before installation the sealing elements should be oiled with system oil.

XT200® Extrusion Resistant Rod Seal



Cross Section (mm)	Max. Permissible Sealing Gap Value "Smax" (mm) for XT200®			
	160 bar	250 bar	315 bar	400 bar
≤5	0.45	0.40	0.35	-
>5-7.5	0.50	0.45	0.40	0.35
>7.5-12.5	0.55	0.50	0.45	0.40
>15	0.60	0.55	0.45	0.40

S_{max} values are suitable for operating conditions up to 60 °C. The S_{max} value should be calculated according to the formula on page 64 and it is recommended not to exceed the given S_{max} value.

NOTE: It is recommended to use with back-up ring in systems over 315 bar.

KASTAŞ NO	d (f8)	D (H10)	L (+0.2/-0)	H	C	KASTAŞ CODE
XT200-020	20	28	6.3	5.7	4	10035515
XT200-020/1	20	30	7	6.3	5	10035516
XT200-020/2	20	30	9	8	5	10035517
XT200-022	22	30	6.3	5.7	4	10035518
XT200-025	25	33	6.3	5.7	4	10035519
XT200-025/1	25	35	9	8	5	10035520
XT200-025/2	25	33	5.6	5	4	10035521
XT200-028	28	36	6.3	5.7	4	10035522
XT200-028/1	28	38	9	8	5	10035523
XT200-030	30	38	6.3	5.7	4	10035524
XT200-030/1	30	40	9	8	5	10035525
XT200-030/2	30	45	11	10	5.5	10035526
XT200-030/3	30	40	6.7	6	4.5	10035527
XT200-032	32	40	6.3	5.7	4	10035528
XT200-032/1	32	47	11	10	5.5	10035529
XT200-035	35	43	6.3	5.7	4	10035530
XT200-035/1	35	45	9	8	5	10035531
XT200-035/2	35	50	11	10	5.5	10035532
XT200-035/3	35	45	6.7	6	4.5	10035533
XT200-036	36	44	6.3	5.7	4.5	10035534
XT200-040	40	50	9	8	5	10035535
XT200-040/1	40	48	6.3	5.7	4	10035536
XT200-040/2	40	48	9	8	4	10035537
XT200-040/3	40	50	8	7.3	5	10035538
XT200-040/4	40	50	10	9	5	10035539
XT200-040/5	40	50	11	10	5	10035540
XT200-040/6	40	55	11	10	5.5	10035541
XT200-040/7	40	50	6.7	6	4.5	10035542
XT200-045	45	53	9	8	4.5	10035543
XT200-045/1	45	55	9	8	5	10035544
XT200-045/2	45	60	11	10	5.5	10035545
XT200-045/3	45	55	6.7	6	4.5	10035546
XT200-045/4	45	53	6.3	5.7	4.5	10035547
XT200-050	50	60	8	7.3	4.5	10035548
XT200-050/1	50	65	11	10	5.5	10035549
XT200-050/2	50	58	9	8	4	10035550



KASTAŞ NO	d (f8)	D (H10)	L (+0.2/-0)	H	C	KASTAŞ CODE
XT200-050/3	50	60	9	8	4.5	10035551
XT200-050/4	50	60	11	10	4.5	10035552
XT200-050/5	50	65	12	11	5.5	10035553
XT200-050/6	50	60	6.7	6	4.5	10035554
XT200-055	55	65	8	7.3	5	10035555
XT200-055/1	55	65	9	8	5	10035556
XT200-055/2	55	70	11	10	5.5	10035557
XT200-055/3	55	65	6.7	6	4.5	10035558
XT200-055/4	55	75	13	12	5	10035559
XT200-056	56	66	9	8	5	10035560
XT200-056/1	56	66	11	10	5	10035561
XT200-056/2	56	71	11	10	5.5	10035562
XT200-060	60	68	9	8	4.5	10035563
XT200-060/1	60	70	8	7.3	5	10035564
XT200-060/2	60	70	9	8	5	10035565
XT200-060/3	60	75	11	10	5.5	10035566
XT200-060/4	60	70	6.7	6	5	10035567
XT200-060/5	60	80	13	12	5.5	10035568
XT200-063	63	78	11	10	5.5	10035569
XT200-065	65	75	9	8	5	10035570
XT200-065/1	65	80	13	12	5.5	10035571
XT200-065/2	65	75	6.7	6	5	10035572
XT200-065/3	65	85	13	12	6	10035573
XT200-070	70	80	9	8	5	10035574
XT200-070/1	70	82	9.6	8.6	6	10035575
XT200-070/2	70	90	13	12	6	10035576
XT200-070/3	70	80	6.7	6	5	10035577
XT200-075	75	90	11	10	5.5	10035578
XT200-075/1	75	85	6.7	6	4.5	10035579
XT200-080	80	90	11	10	4.5	10035580
XT200-080/1	80	95	12.5	11.5	5.5	10035581
XT200-080/2	80	100	13	12	6	10035582
XT200-080/3	80	90	8	7.3	4.5	10035583
XT200-080/4	80	90	6.7	6	4.5	10035584
XT200-085	85	100	10	9	5.5	10035585
XT200-085/1	85	95	9.6	8.6	4.5	10035586
XT200-085/2	85	105	13	12	6	10035587
XT200-085/3	85	100	11	10	5.5	10035588
XT200-085/4	85	97	9.7	8.7	5	10035589
XT200-090	90	105	11	10	5.5	10035590
XT200-090/1	90	110	13	12	6	10035591
XT200-090/2	90	105	10	9	5.5	10035592
XT200-095	95	110	10	9	5.5	10035593
XT200-095/1	95	110	11	10	5.5	10035594
XT200-100	100	115	10	9	5.5	10035595
XT200-100/1	100	115	11	10	5.5	10035596
XT200-100/2	100	115	13	12	5.5	10035597
XT200-100/3	100	120	13	12	6	10035598
XT200-105	105	120	10	9	5.5	10035599
XT200-105/1	105	120	11	10	5.5	10035600
XT200-110	110	125	10	9	5.5	10035601
XT200-110/1	110	130	16	14.5	6	10035602
XT200-110/2	110	125	11	10	5.5	10035603
XT200-115	115	130	10	9	5.5	10035604
XT200-115/1	115	130	11	10	5.5	10035605
XT200-120	120	140	16	14.5	6	10035606



KASTAŞ NO	d (f8)	D (H10)	L (+0.2/-0)	H	C	KASTAŞ CODE
XT200-125	125	140	10	9	5.5	10035607
XT200-130	130	145	11	10	5.5	10035608
XT200-130/1	130	150	13	12	6	10035609
XT200-140	140	155	10	9	5.5	10035611
XT200-140/1	140	160	13	12	6	10035612
XT200-145	145	160	11	10	5.5	10035613
XT200-150	150	170	16	14.5	6	10035614
XT200-150/1	150	170	13	12	6	10035615
XT200-150/2	150	165	11	10	5.5	10035616
XT200-160	160	180	16	14.5	6	10035617
XT200-160/1	160	180	13	12	6	10035618
XT200-170	170	190	16	14.5	6	10035619
XT200-180	180	200	13	12	6	10035620
XT200-180/1	180	200	16	14.5	6	10035621
XT200-190	190	210	16	14.5	6	10035622
XT200-200	200	220	16	14.5	6	10035623
XT200-220	220	240	16	14.5	6	10035624
XT200-220/1	220	240	13	12	6	10035625
XT200-240	240	260	16	14.5	6	10035626
XT200-250	250	270	16	14.5	6	10035627