



# DZR Seal

Heavy-duty rod seal for extreme temperature and pressure applications. Elastomer lip for zero leakage combined with high modulus base for toughness and polyamide anti extrusion ring. Available in dozens of material combinations.

- Rectangular shaped seal for improved seal stability
- Low compression set primary sealing lip material for excellent low pressure and long term sealability and ability to maintain contact with sealing surface under severe radial deflections
- Lubrithane® base for improved extrusion and wear resistance
- Rigid Delta anti-extrusion device for improved extrusion resistance at higher pressures and clearance gaps and anti-extrusion ring seal geometry provide a positively actuated backup ensuring that the extrusion gap is closed

## DZR profile data

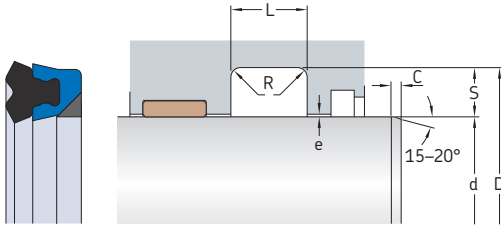


<b>Materials</b>	Primary sealing lip: LT NBR 70A, A-8504 Secondary sealing lip: TPU 95A, U-1003 Anti-extrusion ring: PA P-2506
<b>Pressure</b>	Up to 690 bar (10 000 psi)
<b>Speed</b>	Up to 1 m/s (3.2 ft/s)
<b>Temperature range</b>	<p> <span style="color: blue;">■</span> Extreme low temperature range: seal performance depends on system design (precision guiding arrangement recommended)  <span style="color: green;">■</span> <b>Recommended operating temperature range for this profile and material</b>  <span style="color: yellow;">■</span> Temperatures above the recommended operating range: acceptable only with reduced pressure and/or speed  <span style="color: red;">■</span> Extreme high temperature range: only occasional short term exposure (e.g. cylinder in curing oven of a powder coating process)         </p>

Maximum values of application parameters (e.g. pressure, speed, temperature, e-gap) should not be applied continuously nor simultaneously.

## DZR profile rod seals, metric sizes

d 40 – 150 mm



### Maximum extrusion gap e

Radial depth  $e_{max}$  at 80 °C (175 °F)  
for pressures

S	$e_{max}$ at 80 °C (175 °F) for pressures			
	160 bar	250 bar	400 bar	690 bar
mm	mm			
5	0,55	0,35	0,2	0,1
7,5	0,8	0,5	0,3	0,15
10 to 11	1,1	0,75	0,45	0,2

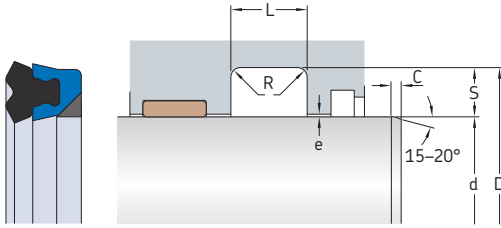
### Cylinder dimensions

### Designation

d h9	D H9	L +0,2	S	R max.	C min.	Designation
mm						-
40	50	8	5	0,2	6	DZR-40x50x8-E2E
50	60	8	5	0,2	6	DZR-50x60x8-E2E
56	71	11,7	7,5	0,5	8,5	DZR-56x71x11.7-E2E
63	78	11,7	7,5	0,5	8,5	DZR-63x78x11.7-E2E
75	95	16,5	10	0,8	11	DZR-75x95x16.5-E2D
85	100	13,8	7,5	0,5	8,5	DZR-85x100x13.8-E2E
110	125	12,5	7,5	0,5	8,5	DZR-110x125x12.5-E2D
150	172	16,5	11	0,8	13	DZR-150x172x16.5-E2D

Other sizes are available on request

**DZR profile rod seals, inch sizes**  
**d 1.25 – 12 in.**



**Maximum extrusion gap e**

Radial depth	$e_{max}$ at 80 °C (175 °F) for pressures			
	2 300 psi	3 600 psi	5 800 psi	10 000 psi
S				
in.	in.			
<b>0.187</b>	0.021	0.013	0.008	0.005
<b>0.25</b>	0.028	0.018	0.011	0.007
<b>0.312</b>	0.044	0.028	0.017	0.01
<b>0.375</b>	0.044	0.028	0.017	0.01
<b>0.5</b>	0.059	0.038	0.023	0.014

**Cylinder dimensions**

**Designation**

d	Tolerance	D	Tolerance	L +0.01	S	R max.	C min.	
in.								-
<b>1.25</b>	-0.002 -0.002	1.625 1.750	+0.002 +0.003	0.343 0.413	0.187 0.25	0.015 0.02	0.250 0.312	<b>DZR187-1250-312-E2E</b> <b>DZR250-1250-375-E2E</b>
<b>1.5</b>	-0.002 -0.002	1.875 2.000	+0.002 +0.003	0.343 0.413	0.187 0.25	0.015 0.02	0.250 0.312	<b>DZR187-1500-312-E2E</b> <b>DZR250-1500-375-E2E</b>
<b>1.75</b>	-0.002	2.250	+0.003	0.413	0.25	0.02	0.312	<b>DZR250-1750-375-E2E</b>
<b>2</b>	-0.002 -0.002	2.500 2.750	+0.003 +0.005	0.413 0.688	0.25 0.375	0.02 0.03	0.312 0.500	<b>DZR250-2000-375-E2E</b> <b>DZR375-2000-625-E2E</b>
<b>2.25</b>	-0.002	2.750	+0.003	0.413	0.25	0.02	0.312	<b>DZR250-2250-375-E2E</b>
<b>2.375</b>	-0.002	2.875	+0.003	0.413	0.25	0.02	0.312	<b>DZR250-2375-375-E2D</b>
<b>2.5</b>	-0.002	3.000	+0.003	0.413	0.25	0.02	0.312	<b>DZR250-2500-375-E2E</b>
<b>2.625</b>	-0.002	3.125	+0.003	0.413	0.25	0.02	0.312	<b>DZR250-2625-375-E2E</b>
<b>2.75</b>	-0.002	3.250	+0.003	0.413	0.25	0.02	0.312	<b>DZR250-2750-375-E2E</b>
<b>3</b>	-0.002 -0.002 -0.002	3.374 3.500 3.750	+0.003 +0.003 +0.005	0.413 0.413 0.688	0.187 0.25 0.375	0.015 0.02 0.03	0.250 0.312 0.500	<b>DZR187-3000-375-E2D</b> <b>DZR250-3000-375-E2E</b> <b>DZR375-3000-625-E2E</b>
<b>3.5</b>	-0.002 -0.002	4.000 4.250	+0.003 +0.005	0.413 0.688	0.25 0.375	0.02 0.03	0.312 0.500	<b>DZR250-3500-375-E2E</b> <b>DZR375-3500-625-E2E</b>
<b>3.625</b>	-0.002 -0.002	4.125 4.375	+0.003 +0.005	0.413 0.688	0.25 0.375	0.02 0.03	0.312 0.500	<b>DZR250-3625-375-E2E</b> <b>DZR375-3625-625-E2E</b>
<b>3.75</b>	-0.002	4.250	+0.003	0.413	0.25	0.02	0.312	<b>DZR250-3750-375-E2E</b>
<b>3.875</b>	-0.002	4.375	+0.003	0.413	0.25	0.02	0.312	<b>DZR250-3875-375-E2D</b>
<b>4</b>	-0.002 -0.002 -0.002 -0.002 -0.002	4.500 4.500 4.625 4.625 4.750	+0.003 +0.003 +0.004 +0.004 +0.005	0.413 0.618 0.550 0.618 0.688	0.25 0.25 0.312 0.312 0.375	0.02 0.02 0.02 0.02 0.03	0.312 0.312 0.312 0.312 0.500	<b>DZR250-4000-375-E2E</b> <b>DZR250-4000-562-E2E</b> <b>DZR312-4000-500-E2E</b> <b>DZR312-4000-562-E2E</b> <b>DZR375-4000-625-E2E</b>

Cylinder dimensions								Designation
d	Tolerance	D	Tolerance	L +0.01	S	R max.	C min.	
in.								-
4.25	-0.002	5.000	+0.005	0.688	0.375	0.03	0.500	DZR375-4250-625-E2E
4.375	-0.002	4.875	+0.003	0.413	0.25	0.02	0.312	DZR250-4375-375-E2D
4.5	-0.002	5.000	+0.003	0.413	0.25	0.02	0.312	DZR250-4500-375-E2E
	-0.002	5.250	+0.005	0.688	0.375	0.03	0.500	DZR375-4500-625-E2E
4.875	-0.002	5.375	+0.003	0.413	0.25	0.02	0.312	DZR250-4875-375-E2D
5	-0.002	5.500	+0.003	0.413	0.25	0.02	0.312	DZR250-5000-375-E2E
	-0.002	5.500	+0.003	0.618	0.25	0.02	0.312	DZR250-5000-562-E2E
	-0.002	5.750	+0.005	0.688	0.375	0.03	0.500	DZR375-5000-625-E2E
5.25	-0.002	6.000	+0.005	0.688	0.375	0.03	0.500	DZR375-5250-625-E2E
5.5	-0.002	6.000	+0.003	0.413	0.25	0.02	0.312	DZR250-5500-375-E2E
	-0.002	6.250	+0.005	0.688	0.375	0.03	0.500	DZR375-5500-625-E2E
6	-0.002	6.750	+0.005	0.688	0.375	0.03	0.500	DZR375-6000-625-E2E
	-0.003	7.000	+0.007	0.825	0.5	0.03	0.625	DZR500-6000-750-E2E
6.5	-0.002	7.250	+0.005	0.688	0.375	0.03	0.500	DZR375-6500-625-E2E
	-0.003	7.500	+0.007	0.825	0.5	0.03	0.625	DZR500-6500-750-E2E
6.75	-0.002	7.500	+0.005	0.688	0.375	0.03	0.500	DZR375-6750-625-E2E
7	-0.002	7.750	+0.005	0.688	0.375	0.03	0.500	DZR375-7000-625-E2E
	-0.003	8.000	+0.007	0.825	0.5	0.03	0.625	DZR500-7000-750-E2E
7.25	-0.002	8.000	+0.005	0.688	0.375	0.03	0.500	DZR375-7250-625-E2D
7.5	-0.002	8.250	+0.005	0.688	0.375	0.03	0.500	DZR375-7500-625-E2D
7.75	-0.002	8.500	+0.005	0.688	0.375	0.03	0.500	DZR375-7750-625-E2D
7.875	-0.002	8.625	+0.005	0.688	0.375	0.03	0.500	DZR375-7875-625-E2D
8	-0.002	8.750	+0.005	0.688	0.375	0.03	0.500	DZR375-8000-625-E2E
	-0.003	9.000	+0.007	0.825	0.5	0.03	0.625	DZR500-8000-750-E2E
8.5	-0.003	9.500	+0.007	0.825	0.5	0.03	0.625	DZR500-8500-750-E2E
9	-0.002	9.750	+0.005	0.688	0.375	0.03	0.500	DZR375-9000-625-E2D
11	-0.002	11.750	+0.005	0.688	0.375	0.03	0.500	DZR375-11000-625-E2D
	-0.003	12.000	+0.007	0.825	0.5	0.03	0.625	DZR500-11000-750-E2D
12	-0.002	12.750	+0.005	0.688	0.375	0.03	0.500	DZR375-12000-625-E2D

Other sizes are available on request