

## Merkel Omegat OMS-MR PR

Equipped for the Demands of the Future  
with the Primary Rod Seal

**simrit**<sup>®</sup>

# Simrit® , Your Global Technology Specialist for Seals and Vibration Control

**Simrit, Your Global Technology Specialist for Seals and Vibration Control offers you a complete service package. A unique range of products and services guarantees you numerous advantages over the competition.**

Simrit acts as a partner to general industry. Its position as a market leader is achieved through continuous research, development and manufacture. We have the world's widest range of seals and vibration control products, and can offer you solutions based on the demands of state-of-the-art-technology, solutions which set standards.

This way we secure competitive advantages for you based on experience all around the world: Simrit has a presence throughout Europe, America and Asia, either directly or through its affiliated companies NOK (Japan) or Freudenberg-NOK (USA). The transfer of knowledge between these markets is incorporated directly into the Simrit service package.

With our many Simrit Service Centres and Simrit distribution Partners, we serve and supply more than 100,000 customers worldwide. Our Simrit Partners ensure rapid availability from stock. This means spare parts quickly arrive when and where they are needed. There is a Simrit Partner near you as well.

Make the most of Simrit's service package and give yourself a real competitive edge:

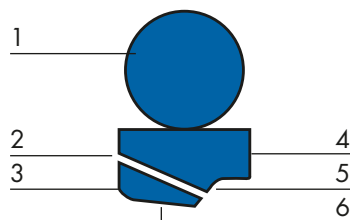
- + Constant innovations
- + Uniquely wide range of products
- + Strong product brands
- + Unique materials expertise
- + A wide range of value added services



Simrit offers a complete package of products and services, including leading brands such as Simmerring®, Merkel, Integral Accumulator, Lederer and ISC O-Ring.

# Higher Reliability and Resistance because of Targeted Pressure Relief

The Merkel Omegat OMS-MR PR is a two part set of seals consisting of a PTFE profile ring and an elastomer ring as the pre-tensioning element. It is used as a primary seal within a sealing system.



- 1 Pre-tensioning element
- 2 Pressure-relief bore
- 3 Anti-extrusion radius
- 4 Profile ring
- 5 Effective support of sealing edge
- 6 Wedge-shaped seal

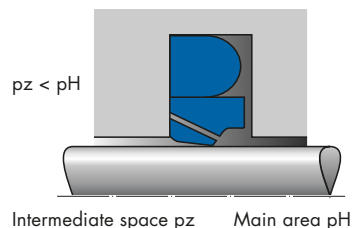
## Materials Available

PTFE-profile ring:  
 PTFE-bronze compound PTFE B602 or  
 PTFE-glass-MoS<sub>2</sub>-compound  
 PTFE M201

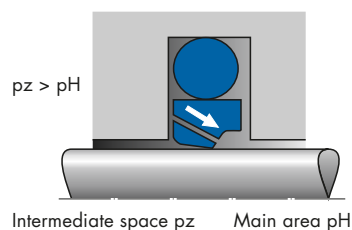
O-Ring:  
 Nitrile rubber 70 NBR B276  
 Hardness: 70 Shore A or  
 Fluoro rubber 70 FKM K655  
 Hardness: 70 Shore A

The Merkel Omegat OMS-MR PR has a defined pressure-relief function. As soon as the pressure in the intermediate space pz becomes greater than the pressure in the main area pH (caused e.g. by disadvantageous speed conditions when moving in and out), the seal is reliably relieved of pressure. The sealing function of the Merkel Omegat OMS-MR PR corresponds to that of our tried and tested Merkel Omegat seals.

## Position in Design Space – Operation



## Position in Design Space During Pressure Relief



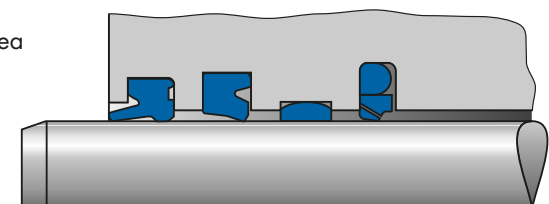
pz = Pressure in intermediate space  
 pH = Pressure in main area

## With Merkel Omegat OMS-MR PR from Simrit you profit from numerous advantages

- PTFE sealing element with pressure relief, therefore no permanent build-up of pressure is possible in the intermediate space
- Very high pressure resistance
- Good thermal conductivity
- Very good extrusion resistance
- High abrasion resistance
- Low friction
- Free of stick-slip
- Patented product design (Patent no.: DE10117662 CI)

## The primary rod seal Merkel Omegat OMS-MR PR from Simrit stands for reliable sealing solutions in:

- Earth-moving equipment
- Industrial vehicles
- Agricultural machinery
- Lorry loading cranes
- Injection-moulding machines
- Control and regulating equipment
- Marine hydraulics
- Presses
- Rolling mills



# Optimum Physical Characteristics for Stable Long Term Behaviour

## Limits of use

Medium/Temperature Pressure: 40 MPa Sliding speed: 5 m/s	PTFE B602/NBR (PTFE-Bronze/NBR)	PTFE GM201 or PTFE C104/NBR (PTFE-glass-MoS2 or PTFE-carbon-fibre/NBR)
Hydraulic oils	-30 to +100 °C	-30 to +100 °C
HFA-, HFB-fluids	-	+5 to +60 °C
HFC-fluids	-	-30 to +60 °C
HFD-fluids	-	-
Water	-	+5 to +100 °C
HETG (rapeseed oil)	-30 to +80 °C	-30 to +80 °C
HEES (synth. ester)	-30 to +80 °C	-30 to +80 °C
HEPG (glycol)	-30 to +60 °C	-30 to +60 °C
Mineral greases	-30 to +100 °C	-30 to +100 °C

## Surface Quality

Peak-to-valley heights	R <sub>max</sub>	R <sub>a</sub>
Sliding surface	< 2.5 µm	0.05 to 0.3 µm
Base of groove	< 6.3 µm	< 1.6 µm
Sides of groove	< 15.0 µm	< 3.0 µm

Load-bearing part  $M_r > 50\%$  to max. 90%  
for depth of cut  $c = R_z/2$   
and reference line C ref = 0%

## Gap Size

Profile size		Max. permissible gap size			
L	Profile	16 MPa	26 MPa	32 MPa	40 MPa
4.2	5.35	0.50	0.40	0.30	-
6.3	7.55	0.55	0.45	0.35	0.30
8.1	10.25	0.60	0.50	0.40	0.40
8.1	12.00	0.70	0.60	0.55	0.50
9.5	13.65	0.75	0.65	0.60	0.55

The decisive factor for the function of the seal is the largest gap dimension occurring in operation on the side of the seal turned away from the pressure (see Simrit Catalogue Section 4, 2.3.3 Gap Widths and Fits, page 4.18). The permissible value is defined by the pressure plus the profile width and profile height.

## Tolerance Recommendation and Dimension D2

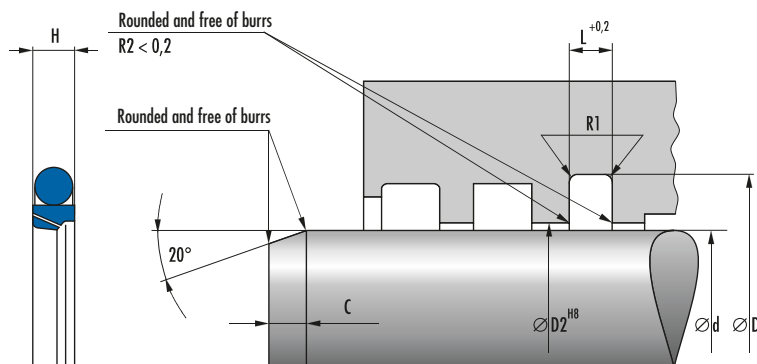
16 MPa			26 MPa			32 MPa			40 MPa		
Nom- Ød	d	D	Nom- Ød	d	D	Nom- Ød	d	D	Nom- Ød	d	D
≤ 80	f8	H9	≤ 80	f8	H9	≤ 80	f7	H9	≤ 80	f7	H7
> 80 to 500	f8	H8	> 80 to 500	f8	H8	> 80 to 500	f7	H8	> 80 to 500	f7	H7
>500 to 1450	f8	H8	>500 to 1450	f7	H8	>500 to 1450	f7	H8	>500 to 1450	f7	H7

The permissible gap dimension, tolerances, guide clearance and springing of the guide under load must be taken into consideration when determining D2 (see Simrit Catalogue section 4, 2.3.3 Gap Widths and Fits, page 4.18).

# Merkel Omegat OMS-MR PR

## Always the Right Decision

### List of articles



Dimensions							Article no.		
d	D	H	L	Profile	C	R1	Material PTFE GM201	Material PTFE B602	Material PTFE C104
50	65.1	5.9	6.3	7.55	5.5	1.2	49004614	-	-
50	60.7	4.0	4.2	5.35	5.5	0.8	-	49009141	-
55	70.1	5.9	6.3	7.55	5.5	1.2	49014635	-	49019333
56	71.1	5.9	6.3	7.55	5.5	1.2	49014916	49002594	49018474
60	75.1	5.9	6.3	7.55	5.5	1.2	49012253	-	-
63	78.1	5.9	6.3	7.55	5.5	1.2	49014917	49009142	49018475
65	80.1	5.9	6.3	7.55	5.5	1.2	-	49002595	-
70	85.1	5.9	6.3	7.55	5.5	1.2	49008472	49006087	49017738
70	80.7	4.0	4.2	5.35	5.5	1.2	-	-	49011113
75	90.1	5.9	6.3	7.55	5.5	1.2	-	49002596	49018476
80	95.1	5.9	6.3	7.55	5.5	1.2	49016403	49005181	-
85	100.1	5.9	6.3	7.55	5.5	1.2	49018521	49002597	49018477
90	105.1	5.9	6.3	7.55	5.5	1.2	-	-	49017739
100	115.1	5.9	6.3	7.55	5.5	1.2	49020572	49015915	-
105	120.1	5.9	6.3	7.55	5.5	1.2	49003864	49015663	-
110	125.1	5.9	6.3	7.55	5.5	1.2	49012225	49002598	49017740
115	130.1	5.9	6.3	7.55	5.5	1.2	49018445	-	-
120	135.1	5.9	6.3	7.55	5.5	1.2	49012945	49002599	49017277
125	140.1	5.9	6.3	7.55	5.5	1.2	49010807	49015916	49017741
130	145.1	5.9	6.3	7.55	5.5	1.2	49012252	49002600	-
135	150.1	5.9	6.3	7.55	5.5	1.2	-	-	49018331
140	155.1	5.9	6.3	7.55	5.5	1.2	-	49015917	-
145	160.1	5.9	6.3	7.55	5.5	1.2	-	-	49017742
150	165.1	5.9	6.3	7.55	5.5	1.2	49005153	49016162	49020172
155	170.1	5.9	6.3	7.55	5.5	1.2	-	-	49018944
160	175.1	5.9	6.3	7.55	5.5	1.2	-	49015918	49017743
170	185.1	5.9	6.3	7.55	5.5	1.2	49015207	-	49018943

Dimensions							Article no.		
d	D	H	L	Profile	C	R1	Material PTFE GM201	Material PTFE B602	Material PTFE C104
180	195.1	5.9	6.3	7.55	5.5	1.2	49012616	49015919	49017744
190	205.1	5.9	6.3	7.55	5.5	1.2	-	49018778	-
200	220.5	7.6	8.1	10.25	8.0	2.0	49013960	-	49017745
210	230.5	7.6	8.1	10.25	8.0	2.0	-	-	49015913
220	240.5	7.6	8.1	10.25	8.0	2.0	-	49012807	49017746
230	250.5	7.6	8.1	10.25	8.0	2.0	49004615	-	-
235	255.5	7.6	8.1	10.25	8.0	2.0	-	-	49017635
240	260.5	7.6	8.1	10.25	8.0	2.0	-	49016866	49018772
250	270.5	7.6	8.1	10.25	8.0	2.0	49009053	-	49017747
255	275.5	7.6	8.1	10.25	8.0	2.0	-	49015011	-
260	284.0	7.6	8.1	12.00	8.0	2.0	49015687	49016862	49019084
265	289.0	7.6	8.1	12.00	8.0	2.0	-	-	49017636
270	294.0	7.6	8.1	12.00	8.0	2.0	-	49016776	-
280	304.0	7.6	8.1	12.00	8.0	2.0	-	49020179	49017748
290	303.0	7.6	8.1	6.50	8.0	2.0	-	49012804	-
295	319.0	7.6	8.1	12.00	8.0	2.0	-	-	49017637
300	324.0	7.6	8.1	12.00	8.0	2.0	-	49020994	-
315	339.0	7.6	8.1	12.00	8.0	2.0	-	-	49017749
320	344.0	7.6	8.1	12.00	8.0	2.0	-	49013550	-
330	354.0	7.6	8.1	12.00	8.0	2.0	49004616	49012805	-
335	359.0	7.6	8.1	12.00	8.0	2.0	-	-	49017638
340	364.0	7.6	8.1	12.00	8.0	2.0	-	49013224	-
350	374.0	7.6	8.1	12.00	8.0	2.0	-	49018008	49013920
355	379.0	7.6	8.1	12.00	8.0	2.0	-	49017650	49017750
360	384.0	7.6	8.1	12.00	8.0	2.0	-	49014368	-
370	394.0	7.6	8.1	12.00	8.0	2.0	-	49020995	-
380	404.0	7.6	8.1	12.00	8.0	2.0	-	49012806	49017639
400	427.3	8.7	9.5	13.65	11.0	2.0	-	-	49019802
400	424.0	7.6	8.1	12.00	8.0	2.0	-	49020262	49017751
410	434.0	7.6	8.1	12.00	8.0	2.0	-	49007163	-
425	449.0	7.6	8.1	12.00	8.0	2.0	-	-	49017640
440	464.0	7.6	8.1	12.00	8.0	2.0	-	49019314	-
445	469.0	7.6	8.1	12.00	8.0	2.0	-	-	49017752
460	484.0	7.6	8.1	12.00	8.0	2.0	-	49014935	-
470	494.0	7.6	8.1	12.00	8.0	2.0	-	49014936	49017641
500	524.0	7.6	8.1	12.00	8.0	2.0	-	49015337	49017753
520	544.0	7.6	8.1	12.00	8.0	2.0	-	49014937	-

Dimensions							Article no.		
d	D	H	L	Profile	C	R1	Material PTFE GM201	Material PTFE B602	Material PTFE C104
530	554.0	7.6	8.1	12.00	8.0	2.0	–	49014247	49017642
560	584.0	7.6	8.1	12.00	8.0	2.0	–	–	49017754
590	614.0	7.6	8.1	12.00	8.0	2.0	–	–	49020078
600	624.0	7.6	8.1	12.00	8.0	2.0	–	49016703	49017643
640	667.3	8.7	9.5	13.65	11.0	2.0	–	–	49017755
670	697.3	8.7	9.5	13.65	11.0	2.0	–	–	49017644
705	732.3	8.7	9.5	13.65	11.0	2.0	–	–	49017756
730	757.3	8.7	9.5	13.65	11.0	2.0	–	–	49018768
750	777.3	8.7	9.5	13.65	11.0	2.0	–	49020530	49017645
800	827.3	8.7	9.5	13.65	11.0	2.0	–	49003492	–
800	838.0	12.9	13.8	19.00	12.0	3.0	–	–	49017757
850	888.0	12.9	13.8	19.00	12.0	3.0	–	–	49017646
870	908.0	12.9	13.8	19.00	12.0	3.0	–	–	49018775
890	928.0	12.9	13.8	19.00	12.0	3.0	–	–	49017758
945	983.0	12.9	13.8	19.00	12.0	3.0	–	–	49017647
1000	1038.0	12.9	13.8	19.00	12.0	3.0	–	–	49017759
1060	1098.0	12.9	13.8	19.00	12.0	3.0	–	–	49017648
1120	1158.0	12.9	13.8	19.00	12.0	3.0	–	–	49017760



### Design Information

Please note our general design information in the Simrit Catalogue, Section Merkel Hydraulic Components – Technical Principles, starting at page 4.0.

### Assembly

It is a precondition for the perfect functioning of the seal that it has been carefully assembled (see Simrit Catalogue, Section 4. 3. Installation of Hydraulic Seals, page 4.25).

# Simrit® , Your Global Technology Specialist for Seals and Vibration Control

## Simrit Services

- Constant innovations
- Uniquely wide range of products
- Strong product brands
- Unique materials expertise
- A wide range of value added services

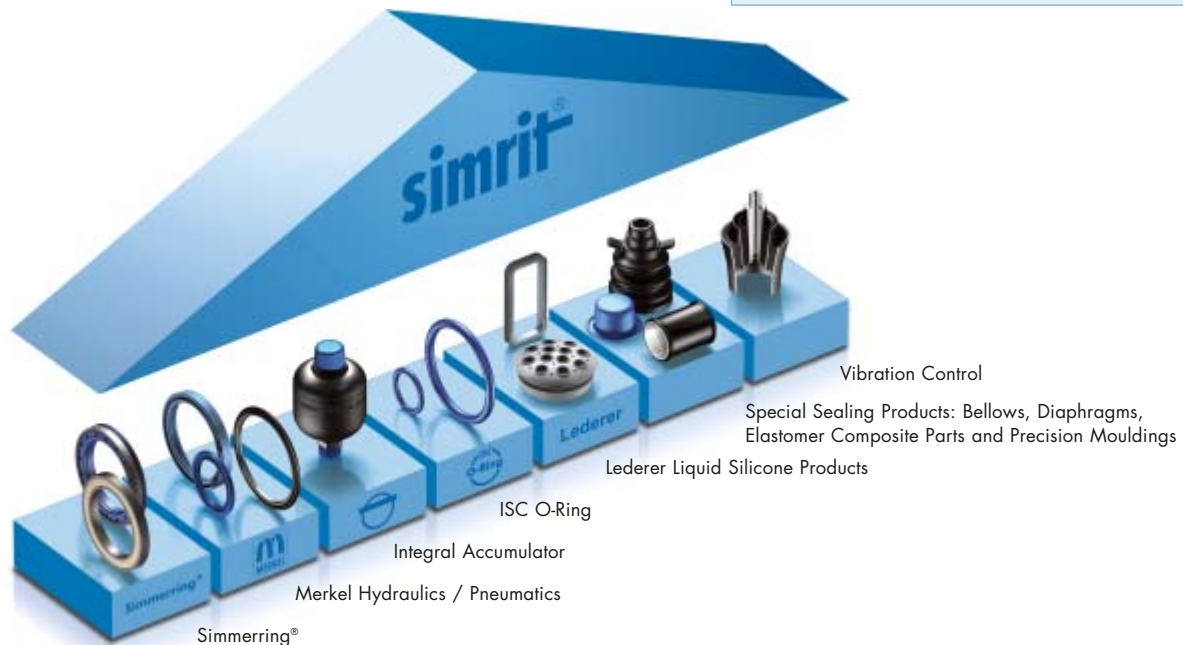
## Your Benefits

- Technological edge
- All from one source
- Specialised technological expertise
- Longer unit service life
- Competitive advantages, efficiency and lower costs

e.g. **Merkel Omegat OMS-MR PR primary rod seal**

### Your Benefits

- Stable long term behaviour
- Free of stick-slip
- High operational reliability



Authorized Distributor:

ERIKS bv  
Toermalijnstraat 5, 1812 RL Alkmaar  
P.O.Box 280, 1800 BK Alkmaar

Phone: +31 (0)72 514 15 14  
Fax: +31 (0)72 515 56 45  
E-mail: seals@eriks.nl

[www.eriks.nl](http://www.eriks.nl)

# ERIKS



## ERIKS vestigingen Afdichtingstechniek

### Alkmaar

Toermalijnstraat 5  
1812 RL Alkmaar  
T (072) 514 15 14  
F (072) 515 56 45  
E info@eriks.nl

### Deventer

Teugseweg 27  
7418 AM Deventer  
T (0570) 62 46 16  
F (0570) 62 57 02  
E info@ertbv.com

## ERIKS Servicecenters

### Alkmaar

Saffierstraat 3  
1812 RM Alkmaar  
T (072) 514 17 17  
F (072) 514 16 25  
E esc.alkmaar@eriks.nl

### Almelo

Plesmanweg 12  
7602 PE Almelo  
T (0546) 87 30 70  
F (0546) 87 32 68  
E almelo@eriks.nl

### Amsterdam

Dynamostraat 46-48  
1014 BK Amsterdam-Westpoort  
T (020) 448 96 10  
F (020) 613 77 65  
E amsterdam@eriks.nl

### Arnhem

Pieter Calandweg 46  
6827 BK Arnhem  
T (026) 362 92 44  
F (026) 361 00 63  
E arnhem@eriks.nl

### Bergen op Zoom

Van Konijnenburgweg 44 b  
4612 PL Bergen op Zoom  
T (0164) 27 55 44  
F (0164) 27 55 49  
E bergenopzoom@eriks.nl

### Delfzijl

Deltaweg 30  
9936 HK Farmsum  
T (0596) 63 38 20  
F (0596) 63 38 29  
E delfzijl@eriks.nl

### Den Haag / Marofra

Neckar 2  
2491 BD Den Haag  
T (070) 381 84 84  
F (070) 381 84 36  
E denhaag@eriks.nl

### Doetinchem

Havenstraat 55  
7005 AG Doetinchem  
T (0314) 34 37 20  
F (0314) 34 37 41  
E doetinchem@eriks.nl

### Ede

Galvanistraat 34  
6716 AE Ede  
T (0318) 43 96 14  
F (0318) 64 01 04  
E ede@eriks.nl

### Eerbeek

Loubergweg 19  
6961 EJ Eerbeek  
T (0313) 67 95 00  
F (0313) 65 47 68  
E eerbeek@eriks.nl

### Eindhoven

De Witbogt 22 a  
5652 AG Eindhoven  
T (040) 291 19 00  
F (040) 291 19 09  
E eindhoven@eriks.nl

### Emmen

Willem Schoutenstraat 11 b  
7825 VV Emmen  
T (0591) 66 80 00  
F (0591) 66 80 06  
E emmen@eriks.nl

### Hengelo

Hassinkweg 16  
7556 BV Hengelo  
T (074) 291 57 57  
F (074) 291 59 39  
E hengelo@eriks.nl

### Hoorn

De Factorij 35 d  
1689 AK Zwaag  
T (0229) 21 28 82  
F (0229) 21 93 74  
E hoorn@eriks.nl

### Gouda

Marconistraat 117  
2809 PG Gouda  
T (0182) 33 11 60  
F (0182) 37 82 02  
E gouda@eriks.nl

### Groningen

Rouaanstraat 8  
9723 CD Groningen  
T (050) 368 49 99  
F (050) 368 49 98  
E groningen@eriks.nl

### Leeuwarden

James Wattstraat 19  
8912 AS Leeuwarden  
T (058) 215 05 87  
F (058) 215 85 16  
E leeuwarden@eriks.nl

### Maastricht

Amerikalaan 28  
6199 AE Maastricht-Airport  
T (043) 604 91 80  
F (043) 363 87 28  
E maastricht@eriks.nl

### Rijnmond

Shannonweg 33, Haven 5079  
3197 LG Rotterdam-Botlek  
T (010) 231 34 00  
F (010) 296 96 18  
E rijnmond@eriks.nl

### Roermond

Ada Byronweg 11  
6045 GM Roermond  
T (0475) 37 22 70  
F (0475) 37 23 05  
E roermond@eriks.nl

### Tilburg

Ellen Pankhurststraat 9  
5032 MD Tilburg  
T (013) 571 45 61  
F (013) 570 06 42  
E tilburg@eriks.nl

### Zwolle

Ampèrestraat 27  
8013 PT Zwolle  
T (038) 467 29 20  
F (038) 467 29 29  
E zwolle@eriks.nl



[www.eriks.nl](http://www.eriks.nl)

kennis maakt het verschil

**ERIKS**