

# Seal Data Sheets

Wipers

Rod Seals

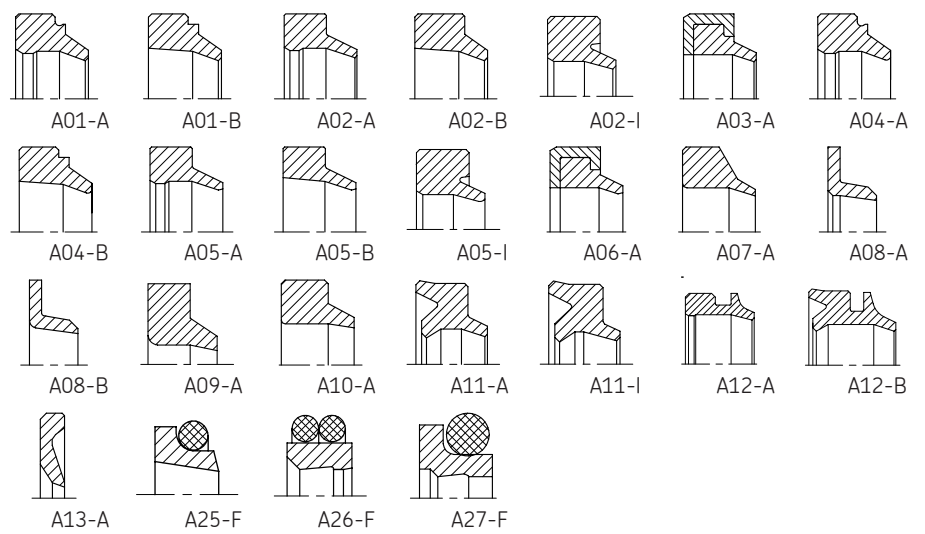
Piston Seals

Rotary Seals

Guide Elements

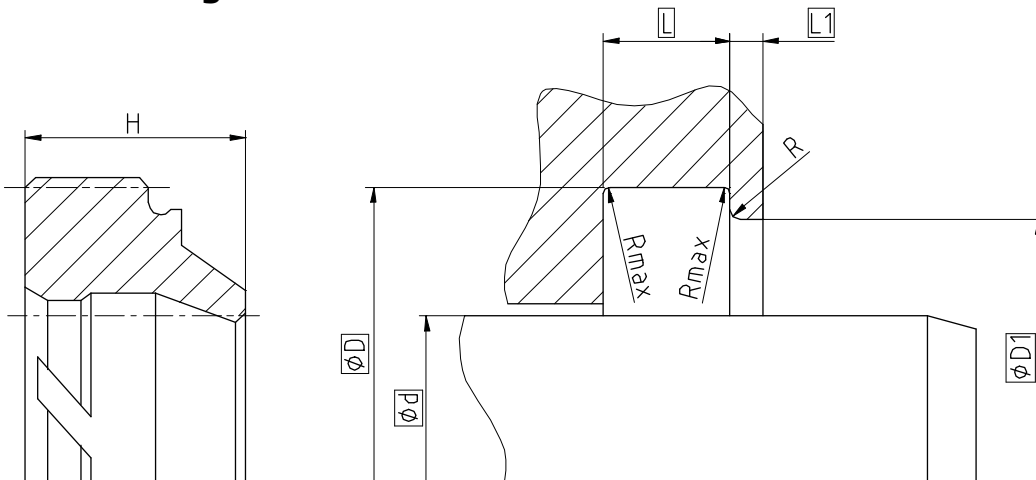
Backup Elements

# Wipers



### Wipers

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...☐

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H11	ØD1 H11	L +0,2	L1	Rmax	R	H
≥ 11 ... ≤ 100	d + 8	d + 6	4	1	0,4	≤ 0,4	7
> 100 ... < 150	d + 12	d + 9	5,5	1,5			10
≥ 150	d + 15	d + 11	6,5	2			13

### Operating parameters

Sealing material	Temperature	max. speed
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>4 m/s</b>
H-ECOPUR™	-20 °C...+110 °C	
S-ECOPUR™	-20 °C...+110 °C	5 m/s
T-ECOPUR™	-50 °C...+110 °C	4 m/s
G-ECOPUR™	-30 °C...+110 °C	
X-ECOPUR™	-30 °C...+110 °C	4 m/s
XH-ECOPUR™	-20 °C...+110 °C	
XS-ECOPUR™	-20 °C...+110 °C	5 m/s
G-ECOPUR 54D™	-30 °C...+110 °C	4 m/s
SKF ECORUBBER-1	-30 °C...+100 °C	4 m/s
SKF ECORUBBER-2	-20 °C...+200 °C	
SKF ECORUBBER-3	-50 °C...+150 °C	
SKF ECORUBBER-H	-25 °C...+150 °C	
SKF ECOFLAS	-10 °C...+200 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

A01-A, d=50mm, D=58mm, D1=56mm, L=4mm, L1=1mm, ECOPUR®

**Wiper A01-A**  
Profile

**50 x 58/56 x 4/1**  
d x D/D1 x L/L1

**ECOPUR®**  
Sealing material

# Seal data sheet

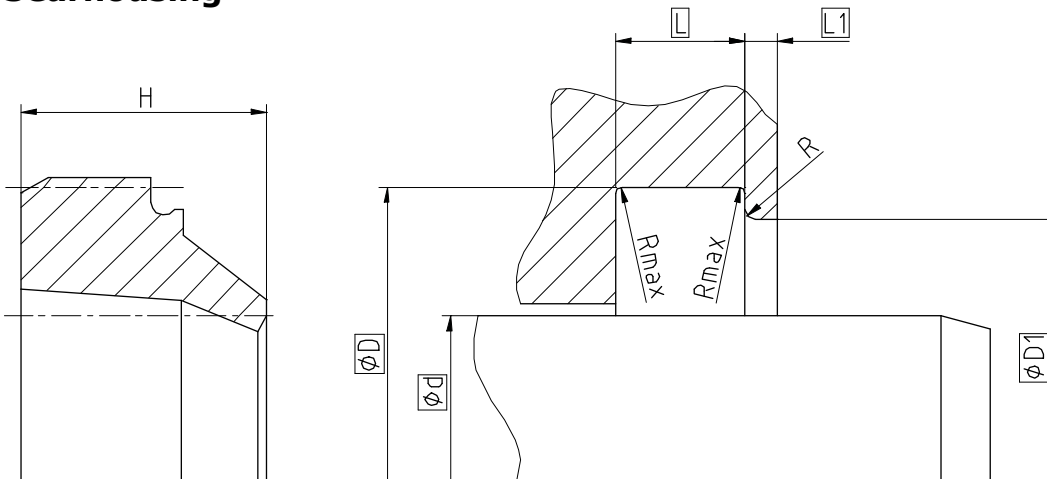
A01-B



2008-09

## Wipers

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H11	ØD1 H11	L +0,2	L1	Rmax	R	H
≥ 5 ... ≤ 100	d + 8	d + 6	4	1	0,4	≤ 0,4	7
> 100 ... < 150	d + 12	d + 9	5,5	1,5			10
≥ 150 ... ≤ 600	d + 15	d + 11	6,5	2			13

### Operating parameters

Sealing material	Temperature	max. speed
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>4 m/s</b>
H-ECOPUR™	-20 °C...+110 °C	
S-ECOPUR™	-20 °C...+110 °C	5 m/s
T-ECOPUR™	-50 °C...+110 °C	4 m/s
X-ECOPUR™	-30 °C...+110 °C	4 m/s
XH-ECOPUR™	-20 °C...+110 °C	
XS-ECOPUR™	-20 °C...+110 °C	5 m/s
SKF ECORUBBER-1	-30 °C...+100 °C	4 m/s
SKF ECORUBBER-2	-20 °C...+200 °C	
SKF ECORUBBER-3	-50 °C...+150 °C	
SKF ECORUBBER-H	-25 °C...+150 °C	
SKF ECOFLAS	-10 °C...+200 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

A01-B, d=50mm, D=58mm, D1=56mm, L=4mm, L1=1mm, ECOPUR®

**Wiper A01-B**  
Profile

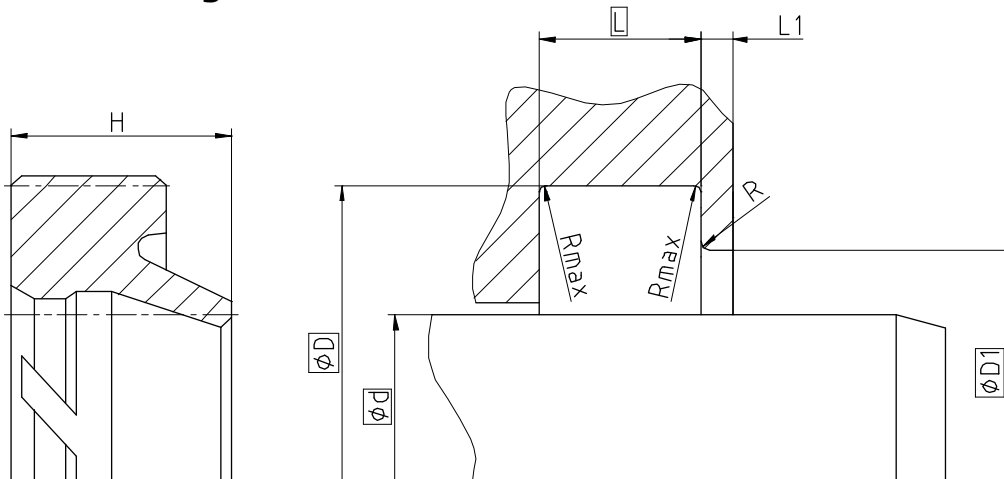
**50 x 58/56 x 4/1**  
d x D/D1 x L/L1

**ECOPUR®**  
Sealing material

**ECONOMOS**

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### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H11	ØD1 H11	L +0,2	L1	Rmax	R	H
≥ 11 ... ≤ 50	d + 8	d + 4	5	≥ 2	0,4	≤ 0,3	8
> 50 ... < 100	d + 10	d + 5	6				9,7
≥ 100	d + 15	d + 7,5	8,5				13

### Operating parameters

Sealing material	Temperature	max. speed
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>4 m/s</b>
H-ECOPUR™	-20 °C...+110 °C	
S-ECOPUR™	-20 °C...+110 °C	5 m/s
T-ECOPUR™	-50 °C...+110 °C	4 m/s
G-ECOPUR™	-30 °C...+110 °C	4 m/s
X-ECOPUR™	-30 °C...+110 °C	
XH-ECOPUR™	-20 °C...+110 °C	5 m/s
XS-ECOPUR™	-20 °C...+110 °C	4 m/s
G-ECOPUR 54D™	-30 °C...+110 °C	4 m/s
SKF ECORUBBER-1	-30 °C...+100 °C	
SKF ECORUBBER-2	-20 °C...+200 °C	
SKF ECORUBBER-3	-50 °C...+150 °C	
SKF ECORUBBER-H	-25 °C...+150 °C	
SKF ECOFLAS	-10 °C...+200 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

A02-A, d=50mm, D=58mm, D1=54mm, L=5mm, ECOPUR®

**Wiper A02-A**  
Profile

**50 x 58/54 x 5**  
d x D/D1 x L

**ECOPUR®**  
Sealing material

# Seal data sheet

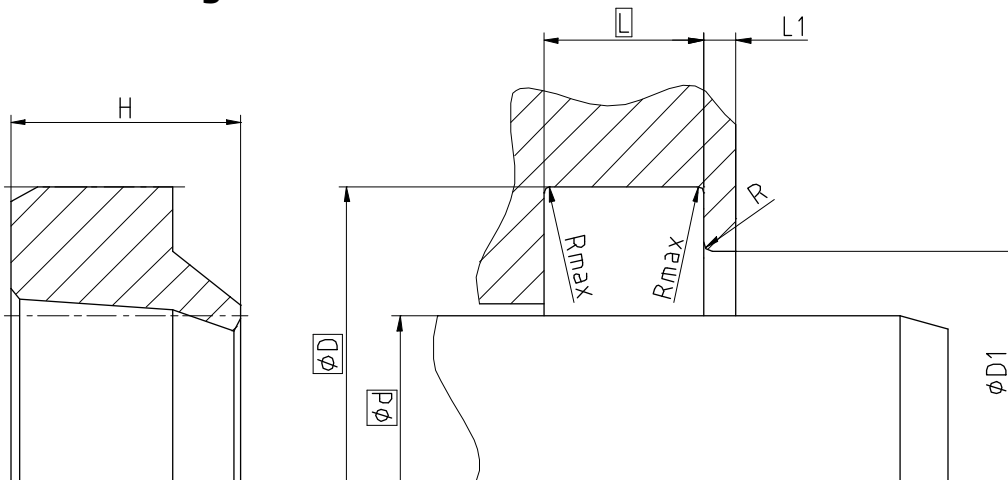
A02-B



2008-09

## Wipers

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H11	ØD1 H11	L +0,2	L1	Rmax	R	H
≥ 5 ... ≤ 50	d + 8	d + 4	5	≥ 2	0,4	≤ 0,4	7,15
> 50 ... < 100	d + 10	d + 5	6				8,6
≥ 100	d + 15	d + 7,5	8,5				12,15

### Operating parameters

Sealing material	Temperature	max. speed
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>4 m/s</b>
H-ECOPUR™	-20 °C...+110 °C	
S-ECOPUR™	-20 °C...+110 °C	5 m/s
T-ECOPUR™	-50 °C...+110 °C	4 m/s
G-ECOPUR™	-30 °C...+110 °C	4 m/s
X-ECOPUR™	-30 °C...+110 °C	4 m/s
XH-ECOPUR™	-20 °C...+110 °C	5 m/s
XS-ECOPUR™	-20 °C...+110 °C	4 m/s
G-ECOPUR 54D™	-30 °C...+110 °C	4 m/s
SKF ECORUBBER-1	-30 °C...+100 °C	4 m/s
SKF ECORUBBER-2	-20 °C...+200 °C	
SKF ECORUBBER-3	-50 °C...+150 °C	
SKF ECORUBBER-H	-25 °C...+150 °C	
SKF ECOFLAS	-10 °C...+200 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

A02-B, d=50mm, D=58mm, L=5mm, ECOPUR®

**Wiper A02-B**  
Profile

**50 x 58 x 5**  
d x D x L

**ECOPUR®**  
Sealing material

**ECONOMOS**

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# Seal data sheet

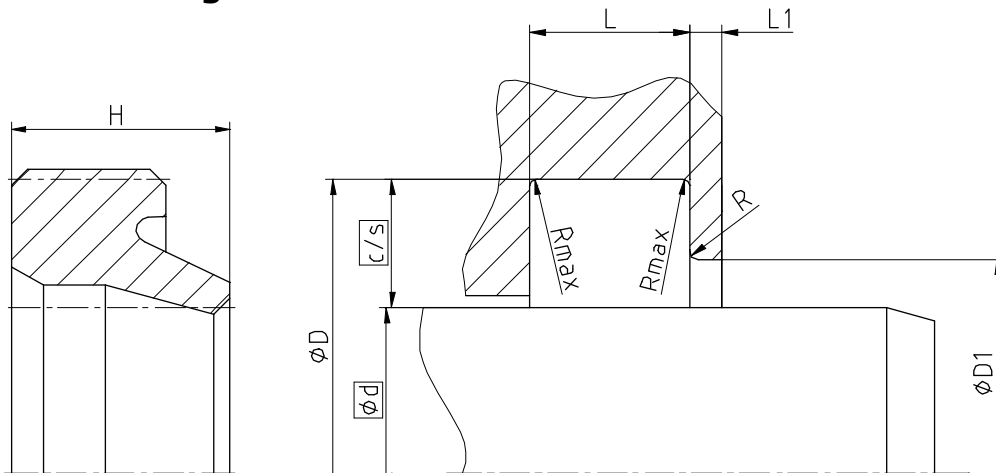
A02-I



2008-09

## Wipers

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	c/s	ØD H11	ØD1 H11	L +0,2	L1	Rmax	R	H
≥ 5 ... ≤ 28	3	d + 6	d + 2,5	4	≥ 2	0,4	≤ 0,43	5,3
> 28 ... ≤ 56	4	d + 8	d + 3	5				7
> 56 ... ≤ 110	5	d + 10	d + 3	6				8
> 110	7,5	d + 15	d + 4	8,5				11

### Operating parameters

Sealing material	Temperature	max. speed
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>4 m/s</b>
H-ECOPUR™	-20 °C...+110 °C	
S-ECOPUR™	-20 °C...+110 °C	5 m/s
T-ECOPUR™	-50 °C...+110 °C	4 m/s
G-ECOPUR™	-30 °C...+110 °C	4 m/s
X-ECOPUR™	-30 °C...+110 °C	
XH-ECOPUR™	-20 °C...+110 °C	
XS-ECOPUR™	-20 °C...+110 °C	
G-ECOPUR 54D™	-30 °C...+110 °C	4 m/s
SKF ECORUBBER-1	-30 °C...+100 °C	4 m/s
SKF ECORUBBER-2	-20 °C...+200 °C	
SKF ECORUBBER-3	-50 °C...+150 °C	
SKF ECORUBBER-H	-25 °C...+150 °C	
SKF ECOFLAS	-10 °C...+200 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

A02-I, d=50mm, c/s=4mm, ECOPUR®

**Wiper A02-I**  
Profile

**50 x 4**  
d x c/s

**ECOPUR®**  
Sealing material

**ECONOMOS**

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# Seal data sheet

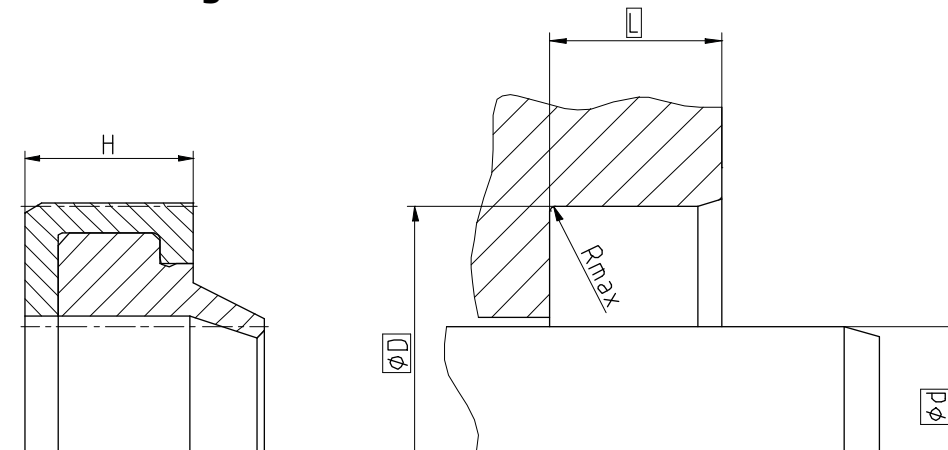
A03-A



2008-09

## Wipers

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H8	L +0,2	Rmax	H
≥ 22 ... < 100	d + 10	7	0,4	10
≥ 100 ... ≤ 200	d + 15	9		12
> 200 ... ≤ 600	d + 20	12		16

### Operating parameters

Sealing material	Housing	Temperature	max. speed
<b>ECOPUR®</b>	SKF ECOTAL SKF ECOMID <sup>1</sup>	<b>-30 °C...+80 °C</b>	<b>4 m/s</b>
H-ECOPUR™		-20 °C...+80 °C	
S-ECOPUR™		-20 °C...+80 °C	5 m/s
T-ECOPUR™		-50 °C...+80 °C	4 m/s
X-ECOPUR™	SKF ECOTAL SKF ECOMID <sup>1</sup>	-30 °C...+80 °C	4 m/s
XH-ECOPUR™		-20 °C...+80 °C	5 m/s
XS-ECOPUR™		-20 °C...+80 °C	
SKF ECORUBBER-1	SKF ECOTAL SKF ECOMID <sup>1</sup>	-30 °C...+80 °C	4 m/s
SKF ECORUBBER-2	SKF ECOPAEK	-20 °C...+200 °C	
SKF ECORUBBER-3		-50 °C...+150 °C	
SKF ECORUBBER-H	SKF ECOTAL SKF ECOMID <sup>1</sup>	-25 °C...+80 °C	
SKF ECOFLAS	SKF ECOPAEK	-10 °C...+200 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

A03-A, d=50mm, D=60mm, L=7mm, ECOPUR® / SKF ECOTAL

**Wiper A03-A**  
Profile

**50 x 60 x 7**  
d x D x L

**ECOPUR® / SKF ECOTAL**  
Sealing material / Housing



# Seal data sheet

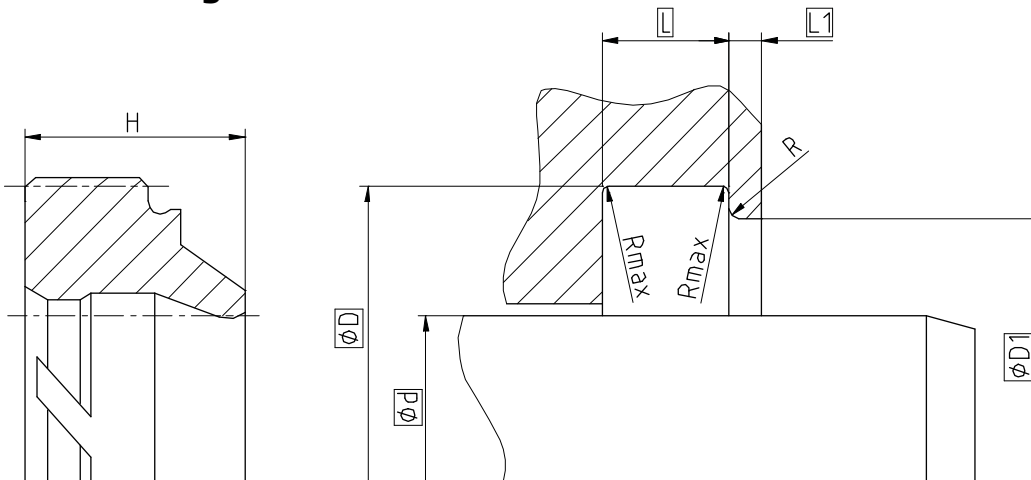
## Wipers

A04-A



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H11	ØD1 H11	L +0,2	L1	Rmax	R	H
≥ 11 ... ≤ 100	d + 8	d + 6	4	1	0,4	≤ 0,4	7
> 100 ... < 150	d + 12	d + 9	5,5	1,5			10
≥ 150 ... ≤ 600	d + 15	d + 11	6,5	2			13

### Operating parameters

Sealing material	Temperature	max. speed
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>4 m/s</b>
H-ECOPUR™	-20 °C...+110 °C	
S-ECOPUR™	-20 °C...+110 °C	5 m/s
T-ECOPUR™	-50 °C...+110 °C	4 m/s
X-ECOPUR™	-30 °C...+110 °C	4 m/s
XH-ECOPUR™	-20 °C...+110 °C	4 m/s
XS-ECOPUR™	-20 °C...+110 °C	5 m/s
SKF ECORUBBER-1	-30 °C...+100 °C	4 m/s
SKF ECORUBBER-2	-20 °C...+200 °C	
SKF ECORUBBER-3	-50 °C...+150 °C	
SKF ECORUBBER-H	-25 °C...+150 °C	
SKF ECOFLAS	-10 °C...+200 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

A04-A, d=50mm, D=58mm, D1=56mm, L=4mm, L1=1mm, ECOPUR®

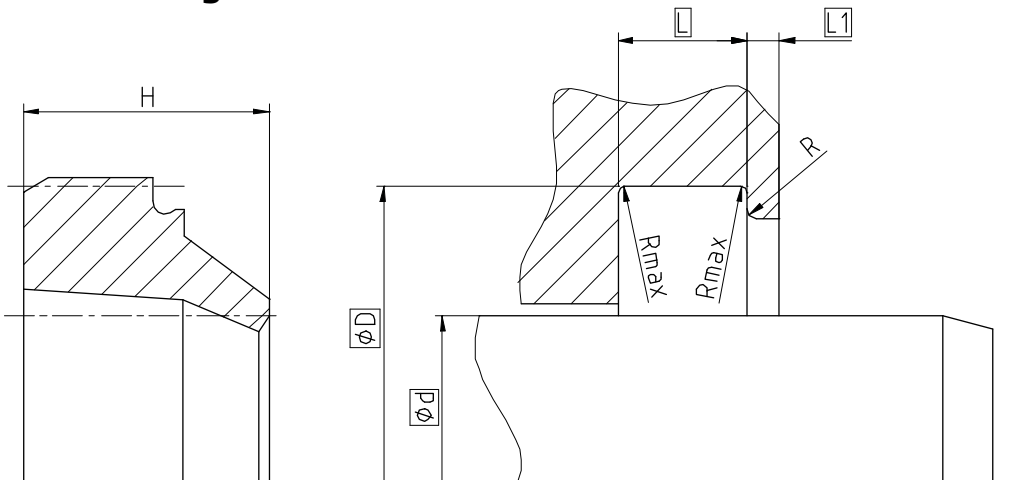
**Wiper A04-A**  
Profile

**50 x 58/56 x 4/1**  
d x D/D1 x L/L1

**ECOPUR®**  
Sealing material

## Wipers

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H11	ØD1 H11	L +0,2	L1	Rmax	R	H
≥ 5 ... ≤ 100	d + 8	d + 6	4	1	0,4	≤ 0,4	7
> 100 ... < 150	d + 12	d + 9	5,5	1,5			10
≥ 150 ... ≤ 600	d + 15	d + 11	6,5	2			13

### Operating parameters

Sealing material	Temperature	max. speed
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>4 m/s</b>
H-ECOPUR™	-20 °C...+110 °C	
S-ECOPUR™	-20 °C...+110 °C	5 m/s
T-ECOPUR™	-50 °C...+110 °C	4 m/s
X-ECOPUR™	-30 °C...+110 °C	4 m/s
XH-ECOPUR™	-20 °C...+110 °C	
XS-ECOPUR™	-20 °C...+110 °C	5 m/s
SKF ECORUBBER-1	-30 °C...+100 °C	4 m/s
SKF ECORUBBER-2	-20 °C...+200 °C	
SKF ECORUBBER-3	-50 °C...+150 °C	
SKF ECORUBBER-H	-25 °C...+150 °C	
SKF ECOFLAS	-10 °C...+200 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

A04-B, d=50mm, D=58mm, D1=56mm, L=4mm, L1=1mm, ECOPUR®

**Wiper A04-B**  
Profile

**50 x 58/56 x 4/1**  
d x D/D1 x L/L1

**ECOPUR®**  
Sealing material

# Seal data sheet

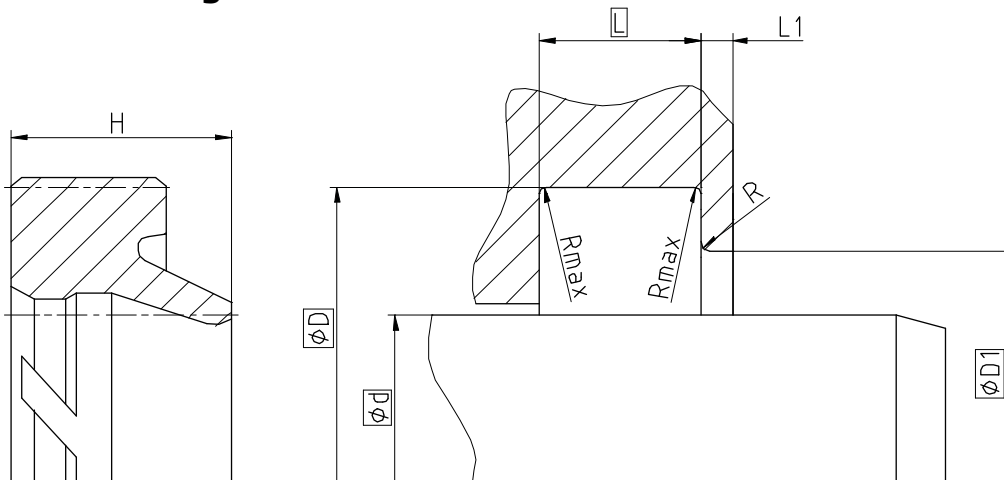
A05-A



2008-09

## Wipers

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H11	ØD1 H11	L +0,2	L1	Rmax	R	H
≥ 11 ... ≤ 50	d + 8	d + 4	5	≥ 2	0,4	≤ 0,3	8
> 50 ... < 100	d + 10	d + 5	6				9,7
≥ 100 ... ≤ 600	d + 15	d + 7,5	8,5				13

### Operating parameters

Sealing material	Temperature	max. speed
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>4 m/s</b>
H-ECOPUR™	-20 °C...+110 °C	
S-ECOPUR™	-20 °C...+110 °C	5 m/s
T-ECOPUR™	-50 °C...+110 °C	4 m/s
X-ECOPUR™	-30 °C...+110 °C	4 m/s
XH-ECOPUR™	-20 °C...+110 °C	
XS-ECOPUR™	-20 °C...+110 °C	5 m/s
SKF ECORUBBER-1	-30 °C...+100 °C	4 m/s
SKF ECORUBBER-2	-20 °C...+200 °C	
SKF ECORUBBER-3	-50 °C...+150 °C	
SKF ECORUBBER-H	-25 °C...+150 °C	
SKF ECOFLAS	-10 °C...+200 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

A05-A, d=50mm, D=58mm, D1=54mm, L=5mm, ECOPUR®

**Wiper A05-A**  
Profile

**50 x 58/54 x 5**  
d x D/D1 x L

**ECOPUR®**  
Sealing material

# Seal data sheet

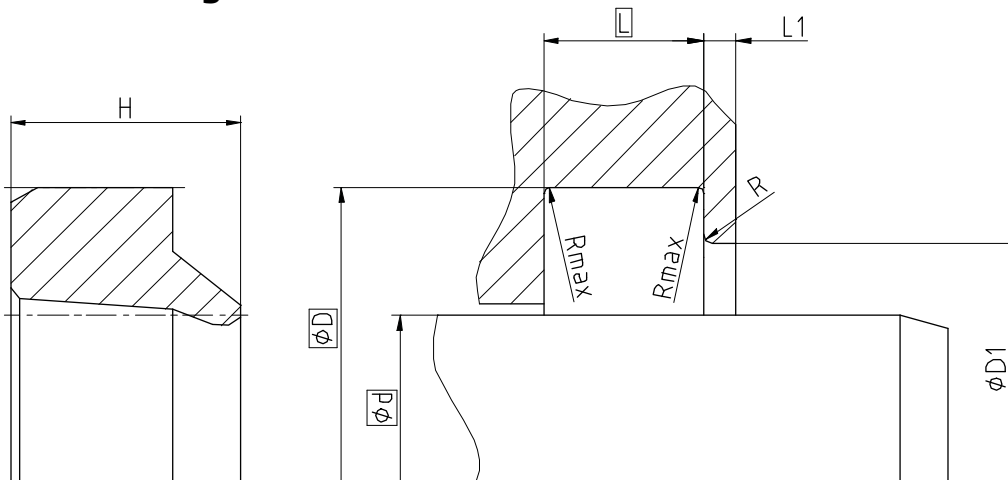
A05-B



2008-09

## Wipers

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H11	ØD1 H11	L +0,2	L1	Rmax	R	H
≥ 5 ... ≤ 50	d + 8	d + 4	5	≤ 2	0,4	≤ 0,3	7,15
> 50 ... < 100	d + 10	d + 5	6				8,6
≥ 100 ... ≤ 600	d + 15	d + 7,5	8,5				12,15

### Operating parameters

Sealing material	Temperature	max. speed
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>4 m/s</b>
H-ECOPUR™	-20 °C...+110 °C	
S-ECOPUR™	-20 °C...+110 °C	5 m/s
T-ECOPUR™	-50 °C...+110 °C	4 m/s
X-ECOPUR™	-30 °C...+110 °C	4 m/s
XH-ECOPUR™	-20 °C...+110 °C	
XS-ECOPUR™	-20 °C...+110 °C	5 m/s
SKF ECORUBBER-1	-30 °C...+100 °C	4 m/s
SKF ECORUBBER-2	-20 °C...+200 °C	
SKF ECORUBBER-3	-50 °C...+150 °C	
SKF ECORUBBER-H	-25 °C...+150 °C	
SKF ECOFLAS	-10 °C...+200 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

A05-B, d=50mm, D=58mm, L=5mm, ECOPUR®

**Wiper A05-B**  
Profile

**50 x 58 x 5**  
d x D x L

**ECOPUR®**  
Sealing material

# Seal data sheet

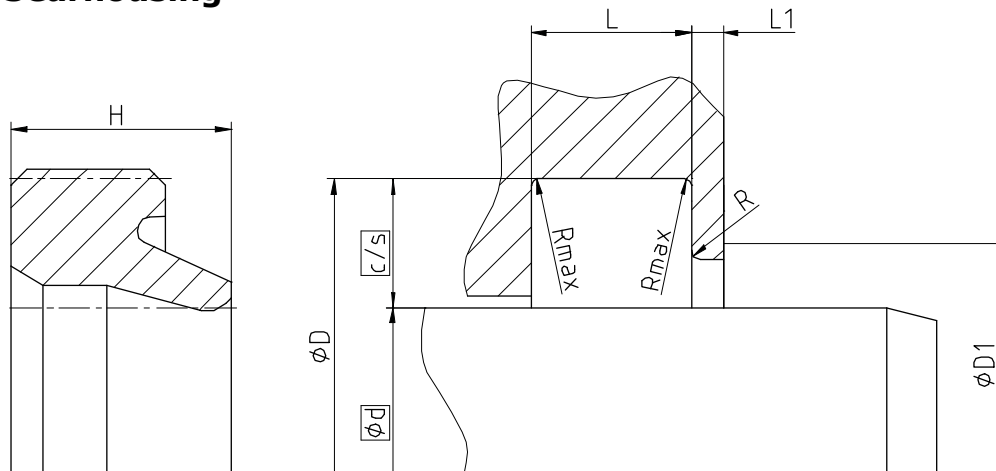
A05-I



2008-09

## Wipers

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	c/s	ØD H11	ØD1 H11	L +0,2	L1	Rmax	R	H
≥ 5 ... ≤ 28	3	d + 6	d + 2,5	4	≥ 2	0,4	≤ 0,4	5,3
> 28 ... ≤ 56	4	d + 8	d + 3	5				7
> 56 ... ≤ 110	5	d + 10	d + 3	6				8
> 110 ... ≤ 600	7,5	d + 15	d + 4	8,5				11

### Operating parameters

Sealing material	Temperature	max. speed
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>4 m/s</b>
H-ECOPUR™	-20 °C...+110 °C	
S-ECOPUR™	-20 °C...+110 °C	5 m/s
T-ECOPUR™	-50 °C...+110 °C	4 m/s
X-ECOPUR™	-30 °C...+110 °C	4 m/s
XH-ECOPUR™	-20 °C...+110 °C	4 m/s
XS-ECOPUR™	-20 °C...+110 °C	5 m/s
SKF ECORUBBER-1	-30 °C...+100 °C	4 m/s
SKF ECORUBBER-2	-20 °C...+200 °C	
SKF ECORUBBER-3	-50 °C...+150 °C	
SKF ECORUBBER-H	-25 °C...+150 °C	
SKF ECOFLAS	-10 °C...+200 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

A05-I, d=50mm, c/s=4mm, ECOPUR®

**Wiper A05-I**  
Profile

**50 x 4**  
d x c/s

**ECOPUR®**  
Sealing material

# Seal data sheet

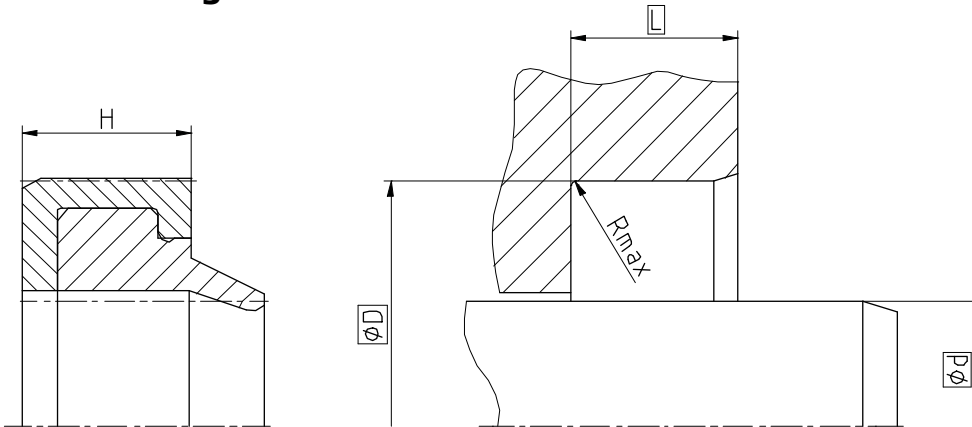
## Wipers

A06-A



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8		ØD H8	L +0,2	Rmax	H
≥ 22	... < 100	d + 10	7	0,4	10
≥ 100	... ≤ 200	d + 15	9		12
> 200	... ≤ 600	d + 20	12		16

### Operating parameters

Sealing material	Housing	Temperature	max. speed
<b>ECOPUR®</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>1</sup>	<b>-30 °C...+80 °C</b>	<b>4 m/s</b>
H-ECOPUR™		-20 °C...+80 °C	
S-ECOPUR™		-20 °C...+80 °C	5 m/s
T-ECOPUR™		-50 °C...+80 °C	4 m/s
X-ECOPUR™	SKF ECOTAL SKF ECOMID <sup>1</sup>	-30 °C...+80 °C	4 m/s
XH-ECOPUR™		-20 °C...+80 °C	
XS-ECOPUR™		-20 °C...+80 °C	5 m/s
SKF ECORUBBER-1	SKF ECOTAL SKF ECOMID <sup>1</sup>	-30 °C...+80 °C	4 m/s
SKF ECORUBBER-2	SKF ECOPA EK	-20 °C...+200 °C	
SKF ECORUBBER-3		-50 °C...+150 °C	
SKF ECORUBBER-H	SKF ECOTAL SKF ECOMID <sup>1</sup>	-25 °C...+80 °C	
	SKF ECOFLAS	SKF ECOPA EK	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

A06-A, d=50mm, D=60mm, L=7mm, ECOPUR® / SKF ECOTAL

**Wiper A06-A**  
Profile

**50 x 60 x 7**  
d x D x L

**ECOPUR® / SKF ECOTAL**  
Sealing material / Housing

**ECONOMOS**

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# Seal data sheet

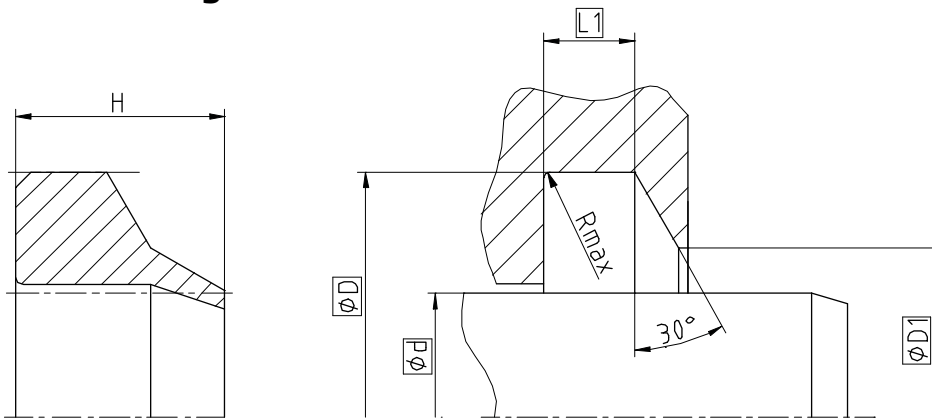
A07-A



2008-09

## Wipers

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8		ØD ±0,127	ØD1 ±0,127	L1 +0,127	Rmax
≥ 22	... ≤ 50	d + 8	d + 3	3,4	0,4
> 50	... < 200	d + 12,7	d + 5,4	5,3	

### Operating parameters

Sealing material	Temperature	max. speed
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>4 m/s</b>
H-ECOPUR™	-20 °C...+110 °C	
S-ECOPUR™	-20 °C...+110 °C	5 m/s
T-ECOPUR™	-50 °C...+110 °C	4 m/s
X-ECOPUR™	-30 °C...+110 °C	4 m/s
XH-ECOPUR™	-20 °C...+110 °C	
XS-ECOPUR™	-20 °C...+110 °C	5 m/s
SKF ECORUBBER-1	-30 °C...+100 °C	4 m/s
SKF ECORUBBER-2	-20 °C...+200 °C	
SKF ECORUBBER-3	-50 °C...+150 °C	
SKF ECORUBBER-H	-25 °C...+150 °C	
SKF ECOFLAS	-10 °C...+200 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

A07-A, d=50mm, D=58mm, D1=53mm, L1=3,4mm, ECOPUR®

**Wiper A07-A**  
Profile

**50 x 58/53 x 3,4**  
d x D/D1 x L1

**ECOPUR®**  
Sealing material

# Seal data sheet

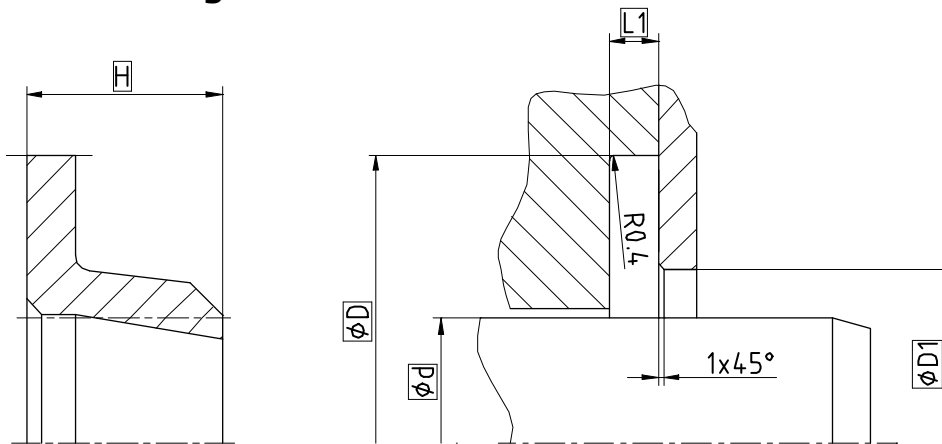
A08-A



2008-09

## Wipers

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

minimum nominal inside diameter  $\varnothing d \geq 6\text{mm}$

This is not a standard profile and serves as a replacement for an existing installation space. New constructions should use standard profiles.

### Operating parameters

Sealing material	Temperature	max. speed
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>4 m/s</b>
H-ECOPUR™	-20 °C...+110 °C	
S-ECOPUR™	-20 °C...+110 °C	5 m/s
T-ECOPUR™	-50 °C...+110 °C	4 m/s
X-ECOPUR™	-30 °C...+110 °C	4 m/s
XH-ECOPUR™	-20 °C...+110 °C	
XS-ECOPUR™	-20 °C...+110 °C	5 m/s
SKF ECORUBBER-1	-30 °C...+100 °C	4 m/s
SKF ECORUBBER-2	-20 °C...+200 °C	
SKF ECORUBBER-3	-50 °C...+150 °C	
SKF ECORUBBER-H	-25 °C...+150 °C	
SKF ECOFLAS	-10 °C...+200 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

A08-A, d=50mm, D=70mm, D1=56mm, L1=3mm, H=12mm, ECOPUR®

**Wiper A08-A**  
Profile

**50 x 70/56 x 3/12**  
d x D/D1 x L1/H

**ECOPUR®**  
Sealing material



# Seal data sheet

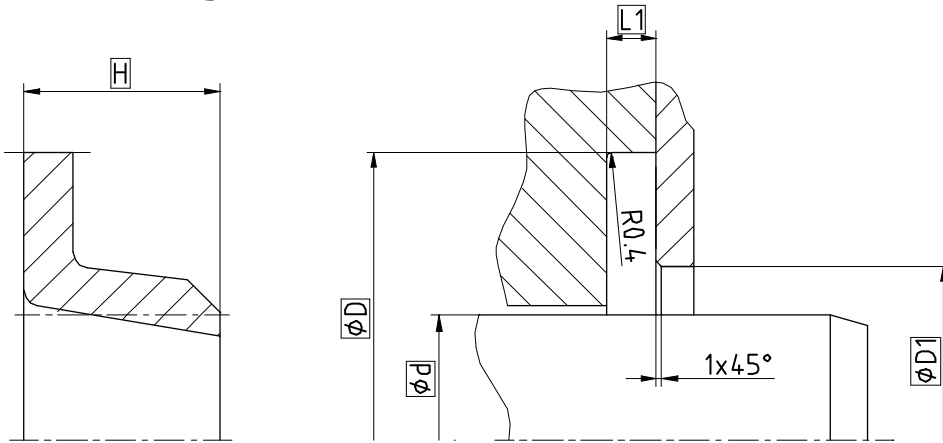
A08-B



2008-09

## Wipers

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

minimum nominal inside diameter  $\varnothing d \geq 11\text{mm}$

This is not a standard profile and serves as a replacement for an existing installation space. New constructions should use standard profiles.

### Operating parameters

Sealing material	Temperature	max. speed
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>4 m/s</b>
H-ECOPUR™	-20 °C...+110 °C	
S-ECOPUR™	-20 °C...+110 °C	5 m/s
T-ECOPUR™	-50 °C...+110 °C	4 m/s
X-ECOPUR™	-30 °C...+110 °C	4 m/s
XH-ECOPUR™	-20 °C...+110 °C	
XS-ECOPUR™	-20 °C...+110 °C	5 m/s
SKF ECORUBBER-1	-30 °C...+100 °C	4 m/s
SKF ECORUBBER-2	-20 °C...+200 °C	
SKF ECORUBBER-3	-50 °C...+150 °C	
SKF ECORUBBER-H	-25 °C...+150 °C	
SKF ECOFLAS	-10 °C...+200 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

A08-B, d=50mm, D=70mm, D1=56mm, L1=3mm, H=12mm, ECOPUR®

**Wiper A08-B**  
Profile

**50 x 70/56 x 3/12**  
d x D/D1 x L1/H

**ECOPUR®**  
Sealing material

# Seal data sheet

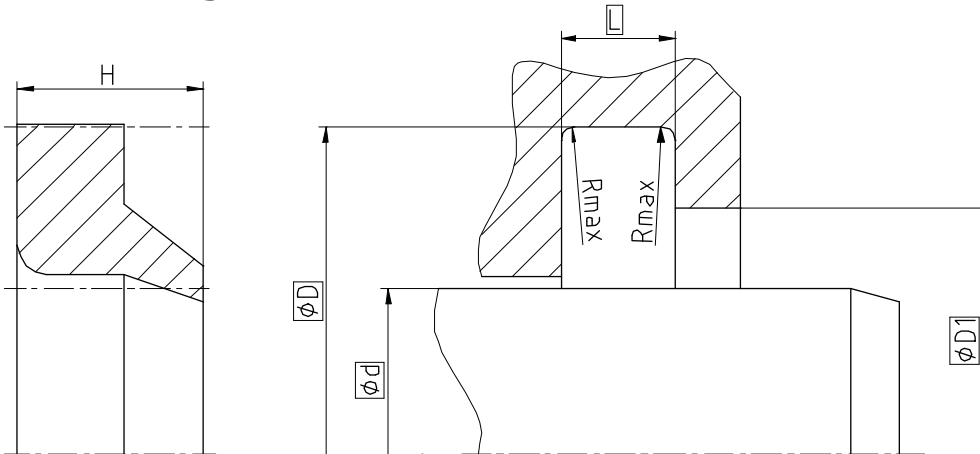
A09-A



2008-09

## Wipers

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	ØD1 H11	L +0,1	Rmax
≥ 5 ... ≤ 65	d + 7	d + 4	2,7	0,4
≥ 65 ... ≤ 100	d + 9,3	d + 5	3,1	0,4
≥ 100 ... ≤ 140	d + 11	d + 6	3,5	0,4
≥ 140 ... ≤ 280	d + 12,5	d + 7	3,9	0,4
≥ 280 ... ≤ 600	d + 12,5	d + 7	4,3	0,4

### Operating parameters

Sealing material	Temperature	max. speed
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>4 m/s</b>
H-ECOPUR™	-20 °C...+110 °C	
S-ECOPUR™	-20 °C...+110 °C	5 m/s
T-ECOPUR™	-50 °C...+110 °C	4 m/s
X-ECOPUR™	-30 °C...+110 °C	4 m/s
XH-ECOPUR™	-20 °C...+110 °C	
XS-ECOPUR™	-20 °C...+110 °C	5 m/s
SKF ECORUBBER-1	-30 °C...+100 °C	4 m/s
SKF ECORUBBER-2	-20 °C...+200 °C	
SKF ECORUBBER-3	-50 °C...+150 °C	
SKF ECORUBBER-H	-25 °C...+150 °C	
SKF ECOFLAS	-10 °C...+200 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

A09-A, d=70mm, D=79,3mm, D1=75mm, L=3,1mm ECOPUR®

**Wiper A09-A**  
Profile

**70 x 79,3/75 x 3,1**  
d x D/D1 x L

**ECOPUR®**  
Sealing material

**ECONOMOS**

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# Seal data sheet

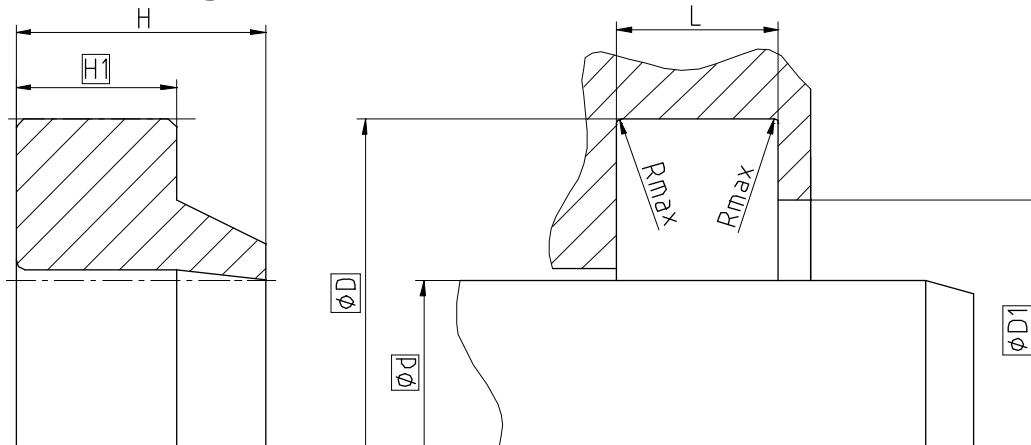
## Wipers

A10-A



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	$\leq 2,5 \mu\text{m}$	0,1...0,5 $\mu\text{m}$
Bottom of groove	$\leq 6,3 \mu\text{m}$	$\leq 1,6 \mu\text{m}$
Groove face	$\leq 15 \mu\text{m}$	$\leq 3 \mu\text{m}$

Ordering dimensions...

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

$\varnothing d$ f8	$\varnothing D$ H10	$\varnothing D1$ H11	L +0,2	Rmax	c/s
$\geq 6$ ... $\leq 17,5$	d + 6,35	d + 4,1	3,15	0,4	3,15
$> 17,5$ ... $\leq 50$	d + 9,5	d + 6,3	4,75		4,72
$> 50$ ... $\leq 600$	d + 12,7	d + 8,3	6,3		6,3

### Operating parameters

Sealing material	Temperature	max. speed
<b>ECOPUR<sup>®</sup></b>	<b>-30 °C...+110 °C</b>	<b>4 m/s</b>
H-ECOPUR <sup>™</sup>	-20 °C...+110 °C	
S-ECOPUR <sup>™</sup>	-20 °C...+110 °C	5 m/s
T-ECOPUR <sup>™</sup>	-50 °C...+110 °C	4 m/s
X-ECOPUR <sup>™</sup>	-30 °C...+110 °C	4 m/s
XH-ECOPUR <sup>™</sup>	-20 °C...+110 °C	
XS-ECOPUR <sup>™</sup>	-20 °C...+110 °C	5 m/s
SKF ECORUBBER-1	-30 °C...+100 °C	4 m/s
SKF ECORUBBER-2	-20 °C...+200 °C	
SKF ECORUBBER-3	-50 °C...+150 °C	
SKF ECORUBBER-H	-25 °C...+150 °C	
SKF ECOFLAS	-10 °C...+200 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

A10-A, d=50mm, D=59,5mm, D1=56,3mm, L=4,75mm, ECOPUR<sup>®</sup>

**Wiper A10-A**  
Profile

**50 x 59,5/56,3 x 4,75**  
d x D/D1 x L

**ECOPUR<sup>®</sup>**  
Sealing material

**ECONOMOS**

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# Seal data sheet

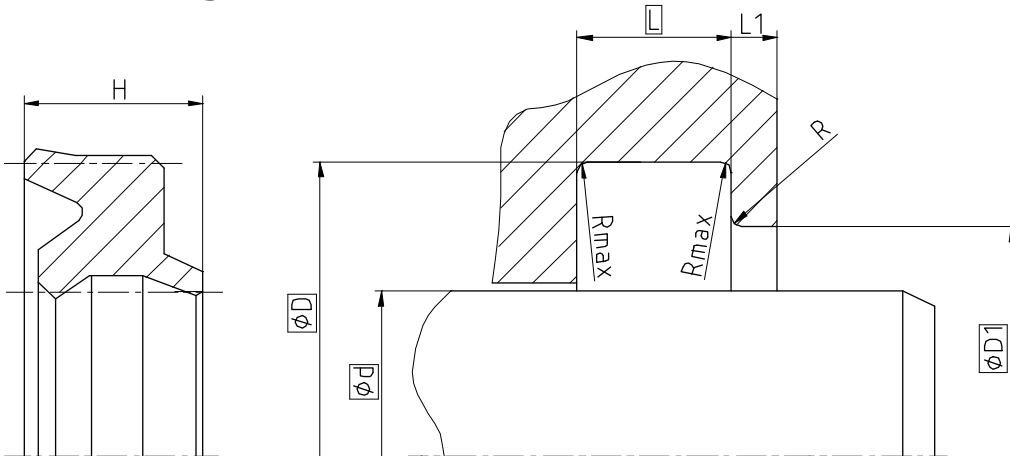
A11-A



2008-09

## Wipers

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H11	ØD1 H11	L +0,2	L1	Rmax	R	H
≥ 5 ... ≤ 50	d + 8	d + 4	5	≥ 2	0,4	≤ 0,3	8
> 50 ... < 100	d + 10	d + 5	6			≤ 0,4	9,7
≥ 100	d + 15	d + 7,5	8,5			13	

### Operating parameters

Sealing material	Temperature	max. speed
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>4 m/s</b>
H-ECOPUR™	-20 °C...+110 °C	
S-ECOPUR™	-20 °C...+110 °C	5 m/s
T-ECOPUR™	-50 °C...+110 °C	4 m/s
G-ECOPUR™	-30 °C...+110 °C	
SKF ECORUBBER-1	-30 °C...+100 °C	4 m/s
SKF ECORUBBER-2	-20 °C...+200 °C	
SKF ECORUBBER-3	-50 °C...+150 °C	
SKF ECORUBBER-H	-25 °C...+150 °C	
SKF ECOFLAS	-10 °C...+200 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

A11-A, d=50mm, D=58mm, D1=54mm, L=5mm, ECOPUR®

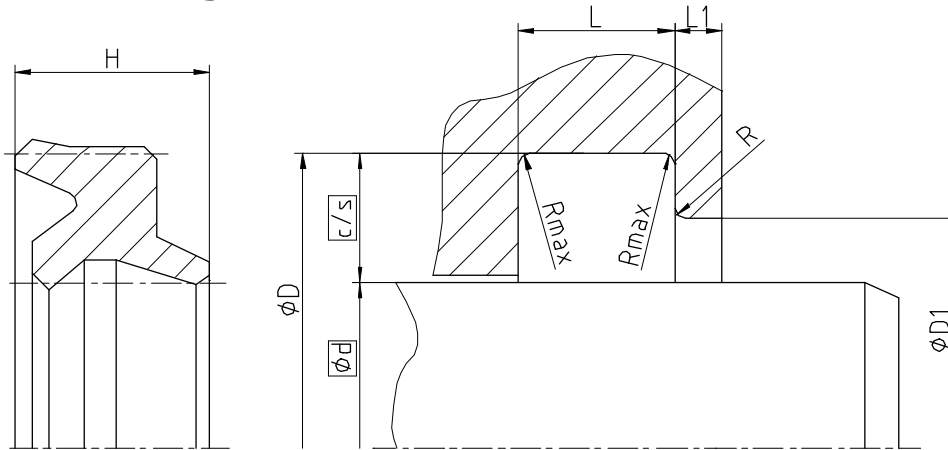
**Wiper A11-A**  
Profile

**50 x 58/54 x 5**  
d x D/D1 x L

**ECOPUR®**  
Sealing material

## Wipers

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	c/s	ØD H11	ØD1 H11	L +0,2	L1	Rmax	R	H
≥ 5 ... ≤ 28	3	d + 6	d + 2,5	4	≥ 2	0,4	≤ 0,4	5,1
> 28 ... ≤ 56	4	d + 8	d + 3	5				6,8
> 56 ... ≤ 110	5	d + 12	d + 3	6				7,8
> 110	7,5	d + 15	d + 4	8,5				10,8

### Operating parameters

Sealing material	Temperature	max. speed
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>4 m/s</b>
H-ECOPUR™	-20 °C...+110 °C	
S-ECOPUR™	-20 °C...+110 °C	5 m/s
T-ECOPUR™	-50 °C...+110 °C	4 m/s
G-ECOPUR™	-30 °C...+110 °C	
SKF ECORUBBER-1	-30 °C...+100 °C	4 m/s
SKF ECORUBBER-2	-20 °C...+200 °C	
SKF ECORUBBER-3	-50 °C...+150 °C	
SKF ECORUBBER-H	-25 °C...+150 °C	
SKF ECOFLAS	-10 °C...+200 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

A11-I, d=50mm, c/s=4mm, ECOPUR®

**Wiper A11-I**  
Profile

**50 x 4**  
d x c/s

**ECOPUR®**  
Sealing material

# Seal data sheet

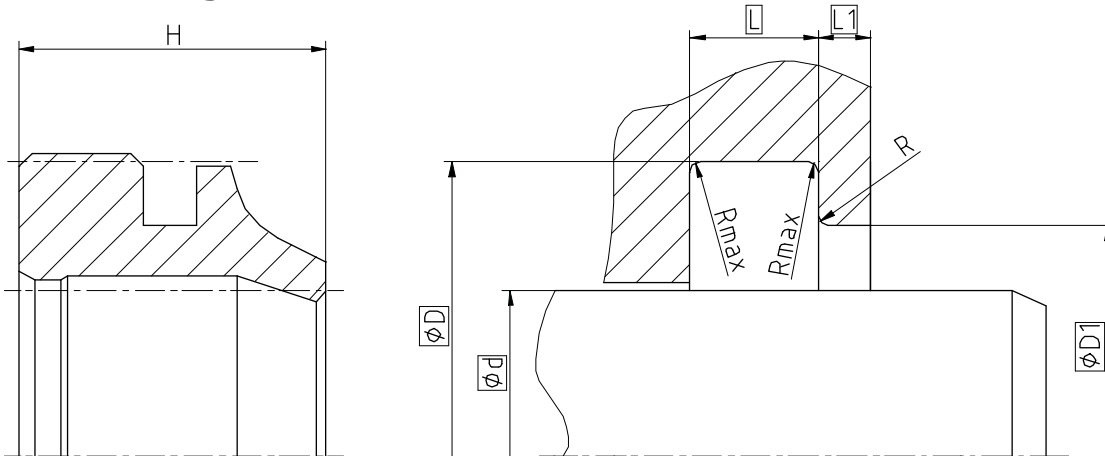
## Wipers

A12-A



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H11	ØD1 H11	L +0,2	L1	Rmax	R	H
≥ 11 ... ≤ 100	d + 8	d + 4	5	1,5	0,4	≤ 0,3	8
> 100 ... < 150	d + 10	d + 5	6	2		≤ 0,4	9,7
≥ 150 ... ≤ 600	d + 15	d + 7,5	8,5	3			13

### Operating parameters

Sealing material	Temperature	max. speed
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>4 m/s</b>
H-ECOPUR™	-20 °C...+110 °C	
S-ECOPUR™	-20 °C...+110 °C	5 m/s
T-ECOPUR™	-50 °C...+110 °C	4 m/s
X-ECOPUR™	-30 °C...+110 °C	4 m/s
XH-ECOPUR™	-20 °C...+110 °C	
XS-ECOPUR™	-20 °C...+110 °C	5 m/s
SKF ECORUBBER-1	-30 °C...+100 °C	4 m/s
SKF ECORUBBER-2	-20 °C...+200 °C	
SKF ECORUBBER-3	-50 °C...+150 °C	
SKF ECORUBBER-H	-25 °C...+150 °C	
SKF ECOFLAS	-10 °C...+200 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

A12-A, d=50mm, D=58mm, D1=54mm, L=5mm, L1=1,5mm, ECOPUR®

**Wiper A12-A**  
Profile

**50 x 58/54 x 5/1,5**  
d x D/D1 x L/L1

**ECOPUR®**  
Sealing material

# Seal data sheet

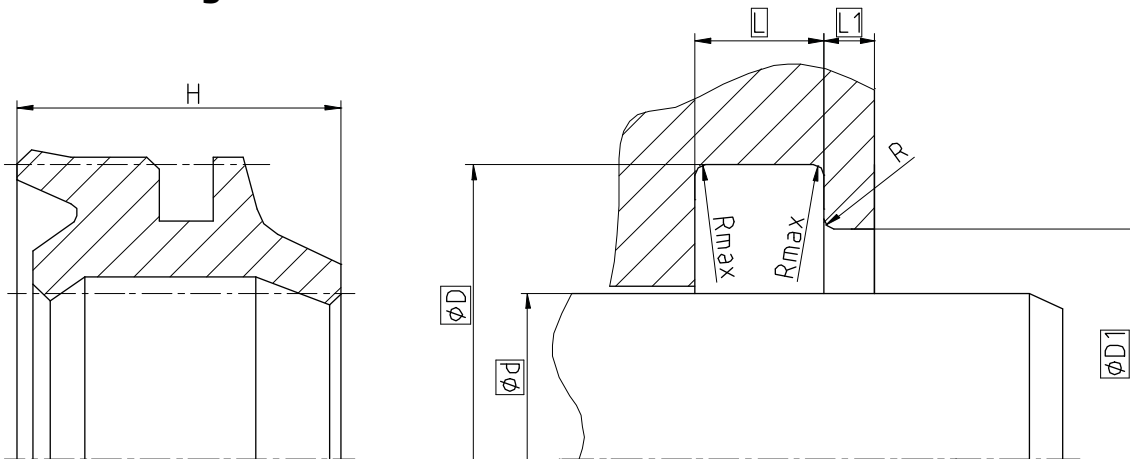
## Wipers

A12-B



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H11	ØD1 H11	L +0,2	L1	Rmax	R
≥ 5 ... ≤ 50	d + 8	d + 4	5	1,5	0,4	≤ 0,3
> 50 ... < 100	d + 10	d + 5	6	2		≤ 0,4
≥ 100 ... ≤ 600	d + 15	d + 7,5	8,5	3		

### Operating parameters

Sealing material	Temperature	max. speed
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>4 m/s</b>
H-ECOPUR™	-20 °C...+110 °C	
S-ECOPUR™	-20 °C...+110 °C	
T-ECOPUR™	-50 °C...+110 °C	4 m/s
SKF ECORUBBER-1	-30 °C...+100 °C	4 m/s
SKF ECORUBBER-2	-20 °C...+200 °C	
SKF ECORUBBER-3	-50 °C...+150 °C	
SKF ECORUBBER-H	-25 °C...+150 °C	
SKF ECOFLAS	-10 °C...+200 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

A12-B, d=50mm, D=58mm, D1=54mm, L=5mm, L1=1,5mm, ECOPUR®

**Wiper A12-B**  
Profile

**50 x 58/54 x 5/1,5**  
d x D/D1 x L/L1

**ECOPUR®**  
Sealing material

# Seal data sheet

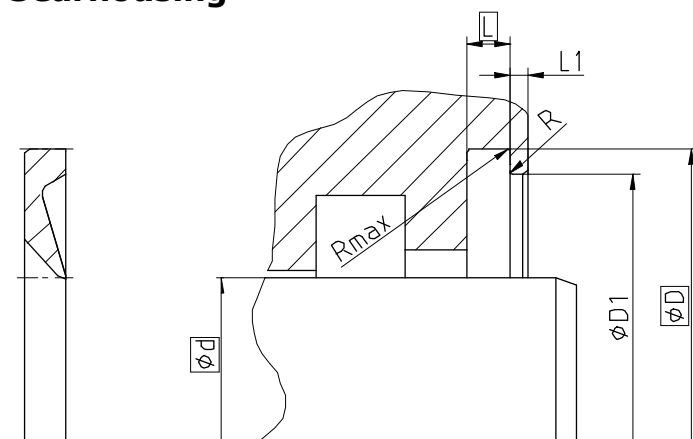
A13-A



2008-09

## Wipers

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8		ØD H9	ØD1 +0,1	L +0,2	Rmax
≥ 5	... ≤ 50	d + 10	d + 9	2	0,4
> 50	... ≤ 150	d + 15	d + 14	2,5	
> 150	... ≤ 600	d + 20	d + 18,5	3	

### Operating parameters

Sealing material	Temperature	max. speed
X-ECOPUR™	-30 °C...+110 °C	4 m/s
XH-ECOPUR™	-20 °C...+110 °C	
XS-ECOPUR™	-20 °C...+110 °C	5 m/s
<b>SKF ECOTAL</b> SKF ECOMID <sup>1</sup>	<b>-40 °C...+80 °C</b>	<b>4 m/s</b>
SKF ECOPAEK	-60 °C...+110 °C	5 m/s
SKF ECOWEAR 1000	-200 °C...+80 °C	4 m/s

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

A13-A, d=60mm, D=75mm, D1=74mm, L=2,5mm, SKF ECOTAL

**Wiper A13-A**  
Profile

**60 x 75/74 x 2,5**  
d x D/D1 x L

**SKF ECOTAL**  
Sealing material



# Seal data sheet

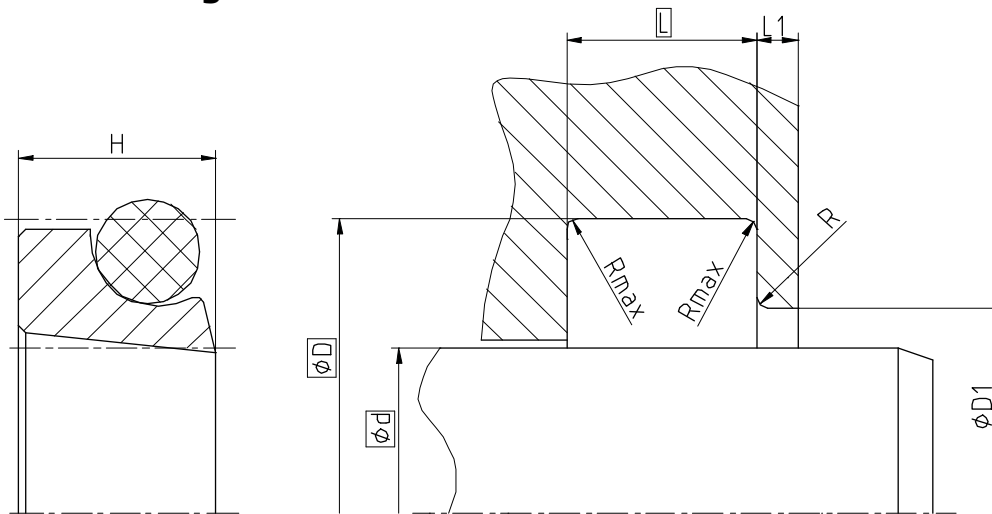
A25-F



2008-09

## Wipers

### Seal housing



	PU		PTFE	
Surface roughness	Rtmax	Ra	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	ØOD	L +0,2	Rmax	ØD1 H11
≥ 5 ... ≤ 11	d + 4,8	1,78	3,7	0,4	d + 2,7
> 11 ... < 63	d + 6,8	2,62	5,0	1,2	d + 3,5
≥ 63 ... < 400	d + 8,8	3,53	6,0	2,0	d + 4,0
> 400 ... < 600	d + 12,2	5,33	8,4	2,0	d + 6,0

### Operating parameters

Glide ring	Energizer	Temperature	max. speed
X-ECOPUR™	NBR70	-30 °C...+100 °C	5 m/s
XH-ECOPUR™		-20 °C...+100 °C	
XS-ECOPUR™		-20 °C...+100 °C	
SKF ECOFLON 1 SKF ECOFLON 2 <b>SKF ECOFLON 3</b> SKF ECOFLON 4	<b>NBR70</b>	<b>-30 °C...+100 °C</b>	<b>10 m/s</b>
	FPM75	-20 °C...+200 °C	
SKF ECOWEAR 1000	NBR70	-30 °C...+80 °C	
	MVQ70	-55 °C...+80 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film. The pressure on the standard version is limited to 16 bar.

### Ordering example

A25-F, d=70mm, D=78,8mm, L=6mm, SKF ECOFLON 3 / NBR70

**Wiper A25-F**  
Profile

**70 x 78,8 x 6**  
d x D x L

**SKF ECOFLON 3 / NBR70**  
Sealing material / Energizer

# Seal data sheet

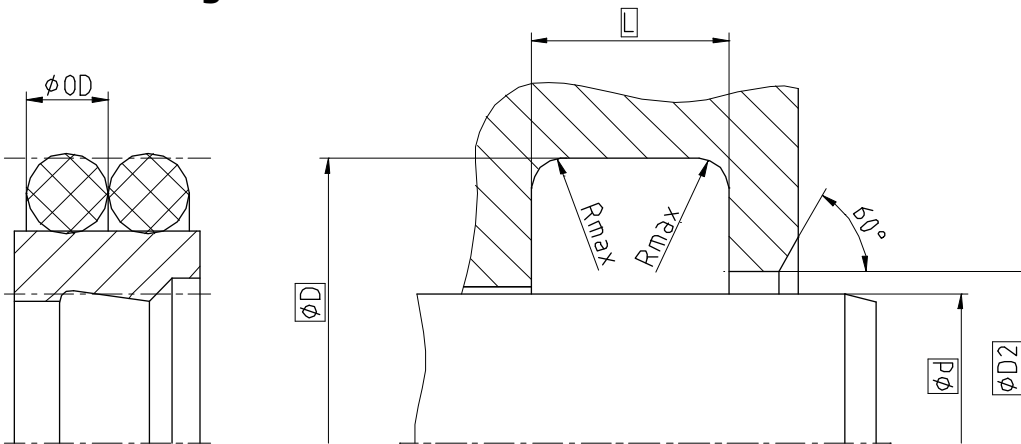
A26-F



2008-09

## Wipers

### Seal housing



Surface roughness	PU		PTFE	
	Rtmax	Ra	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8		ØD H9	ØOD	L +0,2	Rmax	ØD1 H11
≥ 5	... ≤ 30	d + 7,6	1,78	4,2	0,4	d + 1,0
> 30	... < 80	d + 8,8	2,62	6,3	1,2	d + 1,5
≥ 80	... < 120	d + 12,2	3,53	8,1	2,0	d + 2,0
> 120	... < 250	d + 16,0	5,33	11,5	2,0	d + 2,0
> 250	... < 630	d + 24,0	7,00	15,5	2,0	d + 2,5
> 630	... < 1000	d + 27,3	8,40	18,0	2,0	d + 2,5
> 1000	... < 1250	d + 33,0	10,00	21,5	2,0	d + 2,5

### Operating parameters

Glide ring	Energizer	Temperature	max. speed
X-ECOPUR™	NBR70	-30 °C...+100 °C	5 m/s
XH-ECOPUR™		-20 °C...+100 °C	
XS-ECOPUR™		-20 °C...+100 °C	
G-ECOPUR 54D™		-30 °C...+100 °C	
SKF ECOFLON 1 SKF ECOFLON 2 <b>SKF ECOFLON 3</b> SKF ECOFLON 4	<b>NBR70</b>	<b>-30 °C...+100 °C</b>	<b>10 m/s</b>
	FPM75	-20 °C...+200 °C	
SKF ECOWEAR 1000	NBR70	-30 °C...+80 °C	
	MVQ70	-55 °C...+80 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film. The pressure on the standard version is limited to 16 bar.

### Ordering example

A26-F, d=70mm, D=78,8mm, L=6,3mm, SKF ECOFLON 3 / NBR70

**Wiper A26-F**  
Profile

**70 x 78,8 x 6,3**  
d x D x L

**SKF ECOFLON 3 / NBR70**  
Sealing material / Energizer

# Seal data sheet

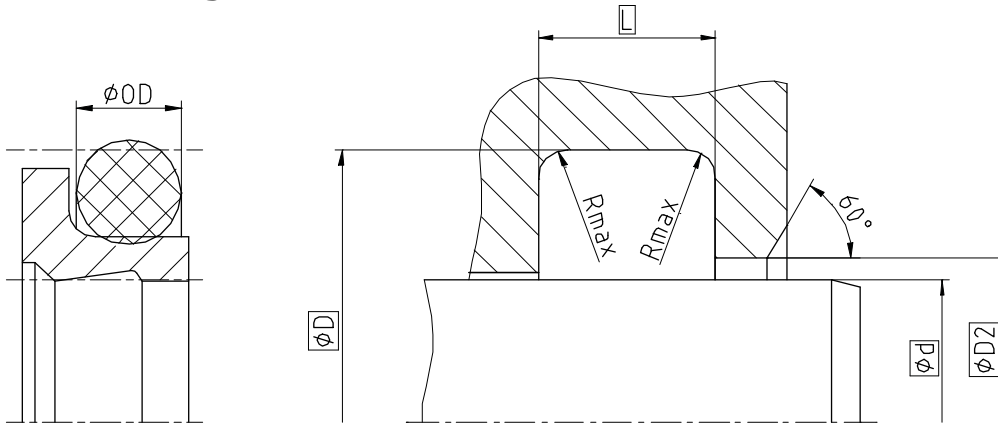
A27-F



2008-09

## Wipers

### Seal housing



	PU		PTFE	
	Rtmax	Ra	Rtmax	Ra
Surface roughness				
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm	≤ 15 µm	≤ 3 µm

Ordering dimensions... □

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8		ØD H9	ØOD	L +0,2	Rmax	ØD1 H11
≥ 5	... ≤ 12	d + 4,8	1,78	3,7	0,4	d + 1,5
> 12	... < 65	d + 6,8	2,62	5,0	0,7	d + 1,5
≥ 65	... < 180	d + 8,8	3,53	6,0	1,0	d + 1,5
> 180	... < 300	d + 12,2	5,33	8,4	1,5	d + 2,0
> 300	... < 650	d + 16,0	7,00	11,0	1,5	d + 2,0
> 650	... < 1000	d + 20,0	8,40	14,0	2,0	d + 2,5
> 1000	... < 2500	d + 27,3	10,00	16,0	2,0	d + 2,5

### Operating parameters

Glide ring	Energizer	Temperature	max. speed
X-ECOPUR™	NBR70	-30 °C...+100 °C	5 m/s
XH-ECOPUR™		-20 °C...+100 °C	
XS-ECOPUR™		-20 °C...+100 °C	
G-ECOPUR 54D™		-30 °C...+100 °C	
SKF ECOFLON 1 SKF ECOFLON 2 <b>SKF ECOFLON 3</b> SKF ECOFLON 4	<b>NBR70</b>	<b>-30 °C...+100 °C</b>	<b>10 m/s</b>
	FPM75	-20 °C...+200 °C	
	NBR70	-30 °C...+80 °C	
SKF ECOWEAR 1000	MVQ70	-55 °C...+80 °C	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film. The pressure on the standard version is limited to 16 bar.

### Ordering example

A27-F, d=70mm, D=78,8mm, L=6mm, SKF ECOFLON 3 / NBR70

**Wiper A27-F**  
Profile

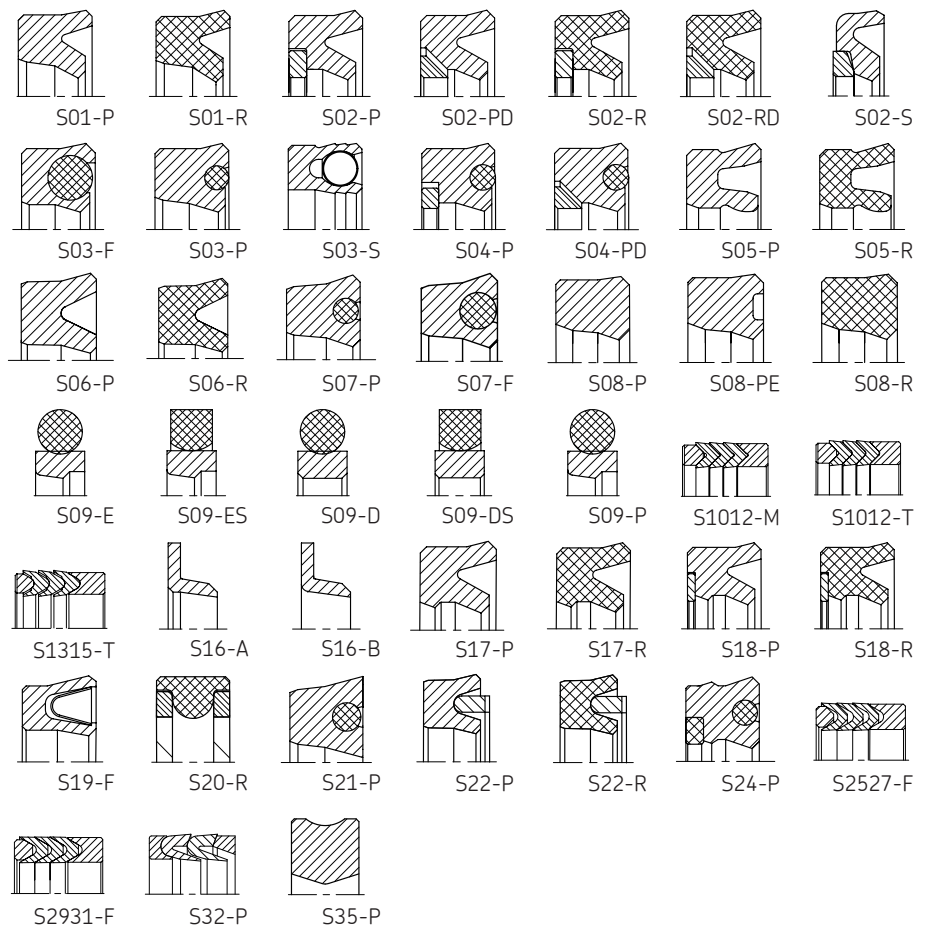
**70 x 78,8 x 6**  
d x D x L

**SKF ECOFLON 3 / NBR70**  
Sealing material / Energizer

**ECONOMOS**

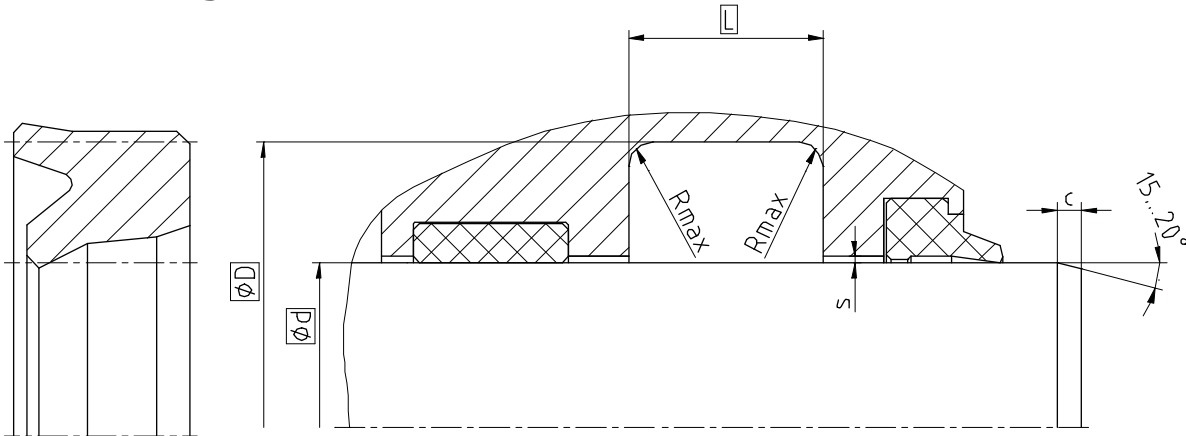
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# Rod Seals



## Rod seals

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 11 ... ≤ 25	d + 8	6,3	0,4	3,5	0,33	0,17	0,11	0,05
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	0,37	0,22	0,16	0,10
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	0,46	0,31	0,25	0,19
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	0,54	0,39	0,32	0,26
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	0,61	0,46	0,39	0,33
> 500 ... ≤ 700	d + 30	25,0	0,4	10,0	0,67	0,52	0,45	0,39
> 700	d + 40	32,0	0,4	13,0	0,67	0,52	0,45	0,39

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

## Operating parameters

Sealing material	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>0,5 m/s</b>	<b>400 bar (40 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C	0,5 m/s	
S-ECOPUR™	-20 °C...+110 °C	0,7 m/s	
T-ECOPUR™	-50 °C...+110 °C	0,5 m/s	
G-ECOPUR™	-30 °C...+110 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

## Ordering example

S01-P, d=100mm, D=115mm, L=10mm, ECOPUR®

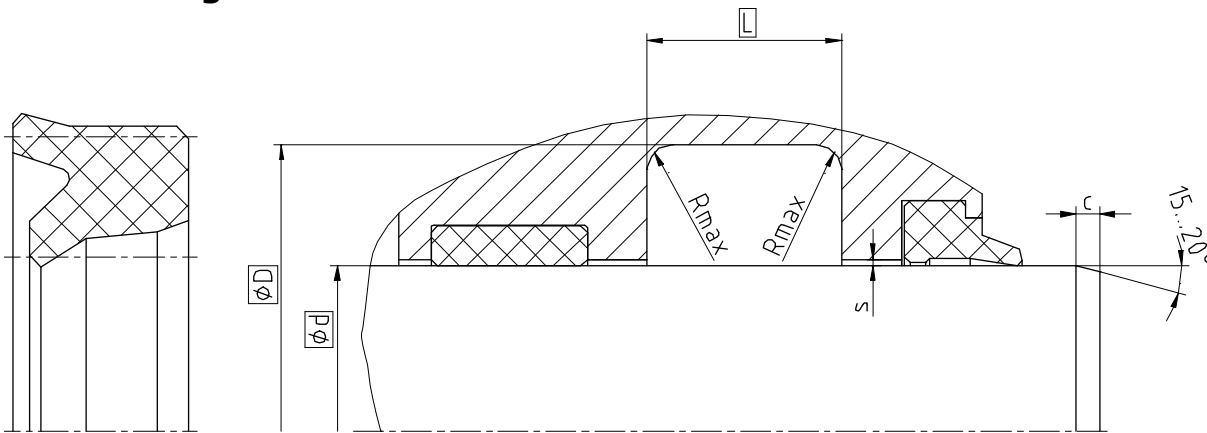
**Rod Seal S01-P**  
Profile

**100 x 115 x 10**  
d x D x L

**ECOPUR®**  
Sealing material

## Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*		
					20 bar	100 bar	160 bar
≥ 11 ... ≤ 25	d + 8	6,3	0,4	3,5	0,23	0,16	0,14
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	0,26	0,19	0,17
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	0,31	0,24	0,22
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	0,34	0,27	0,25
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	0,37	0,30	0,29
> 500 ... ≤ 700	d + 30	25,0	0,4	10,0	0,40	0,34	0,32
> 700	d + 40	32,0	0,4	13,0	0,40	0,34	0,32

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>160 bar (16 MPa)</b>
SKF ECORUBBER-2	-20 °C...+200 °C		
SKF ECORUBBER-3	-50 °C...+150 °C		
SKF ECORUBBER-H	-25 °C...+150 °C		
SKF ECOSIL	-60 °C...+200 °C	-	-
SKF ECOFLAS	-10 °C...+200 °C	0,5 m/s	160 bar (16 MPa)

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

S01-R, d=100mm, D=115mm, L=10mm, SKF ECORUBBER-1

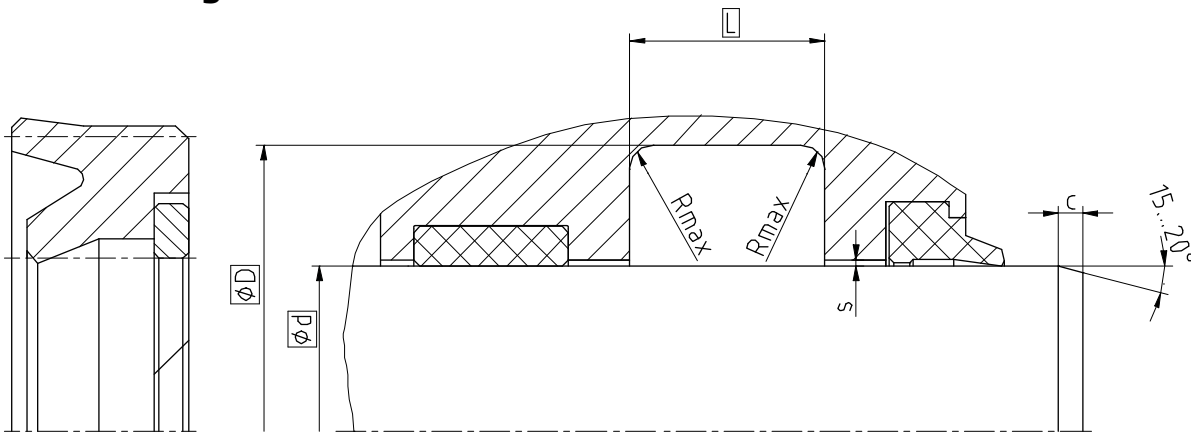
**Rod Seal S01-R**  
Profile

**100 x 115 x 10**  
d x D x L

**SKF ECORUBBER-1**  
Sealing material

## Rod seals

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	400 bar	700 bar
≥ 23 ... ≤ 25	d + 8	6,3	0,4	3,5	0,80	0,80	0,30	0,04
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	1,00	1,00	0,37	0,04
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	1,50	1,47	0,46	0,05
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	2,00	1,77	0,54	0,06
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	2,50	2,06	0,62	0,06
> 500 ... ≤ 700	d + 30	25,0	0,4	10,0	3,00	2,43	0,76	0,06
> 700	d + 40	32,0	0,4	13,0	3,00	2,43	0,76	0,06

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

## Operating parameters

Sealing material	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>700 bar (70 MPa)</b>
H-ECOPUR™		-20 °C...+100 °C	0,5 m/s	
S-ECOPUR™		-20 °C...+100 °C	0,7 m/s	
T-ECOPUR™		-40 °C...+100 °C	0,5 m/s	
G-ECOPUR™		-30 °C...+100 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

## Ordering example

S02-P, d=100mm, D=115mm, L=10mm, ECOPUR® / SKF ECOTAL

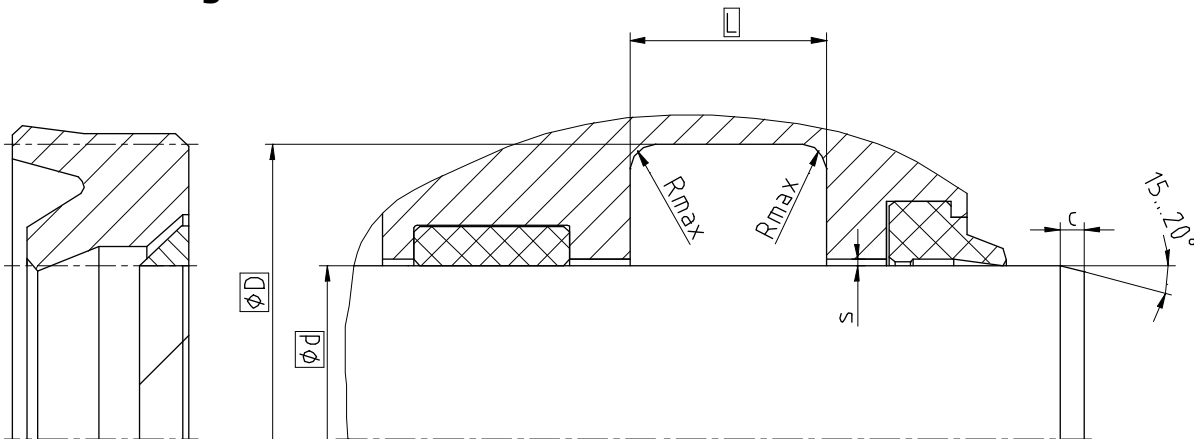
**Rod Seal S02-P**  
Profile

**100 x 115 x 10**  
d x D x L

**ECOPUR® / SKF ECOTAL**  
Sealing material / Backup ring

## Rod seals

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	400 bar	700 bar
> 16 ... ≤ 25	d + 8	6,3	0,4	3,5	0,80	0,80	0,30	0,04
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	1,00	1,00	0,37	0,04
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	1,50	1,47	0,46	0,05
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	2,00	1,77	0,54	0,06
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	2,50	2,06	0,62	0,06
> 500 ... ≤ 700	d + 30	25,0	0,4	10,0	3,00	2,43	0,76	0,06
> 700	d + 40	32,0	0,4	13,0	3,00	2,43	0,76	0,06

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

## Operating parameters

Sealing material	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>700 bar (70 MPa)</b>
H-ECOPUR™		-20 °C...+100 °C	0,5 m/s	
S-ECOPUR™		-20 °C...+100 °C	0,7 m/s	
T-ECOPUR™		-40 °C...+100 °C	0,5 m/s	
G-ECOPUR™		-30 °C...+100 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

## Ordering example

S02-PD, d=100mm, D=115mm, L=10mm, ECOPUR® / SKF ECOTAL

**Rod Seal S02-PD**  
Profile

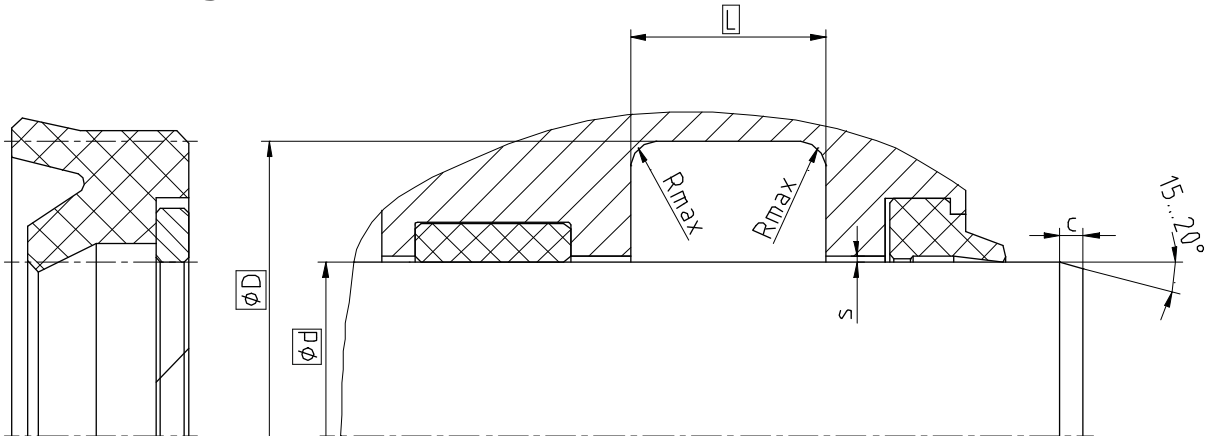
**100 x 115 x 10**  
d x D x L

**ECOPUR® / SKF ECOTAL**  
Sealing material / Backup ring



## Rod seals

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*		
					20 bar	100 bar	250 bar
≥ 23 ... ≤ 25	d + 8	6,3	0,4	3,5	0,60	0,80	0,52
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	1,00	1,00	0,66
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	1,50	1,40	0,78
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	2,00	1,66	0,88
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	2,50	1,91	1,00
> 500 ... ≤ 700	d + 30	25,0	0,4	10,0	3,00	2,18	1,13
> 700	d + 40	32,0	0,4	13,0	3,00	2,18	1,13

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

## Operating parameters

Sealing material	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECORUBBER-1</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C ... +100 °C</b>	<b>0,5 m/s</b>	<b>250 bar (25 MPa)</b>
SKF ECORUBBER-2	SKF ECOFLON 2	-20 °C ... +200 °C		
SKF ECORUBBER-3	SKF ECOTAL SKF ECOMID <sup>2</sup>	-40 °C ... +100 °C		
	SKF ECOFLON 2	-50 °C ... +150 °C		
SKF ECORUBBER-H	SKF ECOTAL SKF ECOMID <sup>2</sup>	-25 °C ... +100 °C		
	SKF ECOFLON 2	-25 °C ... +150 °C		
SKF ECOFLAS	SKF ECOPA EK	-10 °C ... +200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

## Ordering example

S02-R, d=100mm, D=115mm, L=10mm, SKF ECORUBBER-1 / SKF ECOTAL

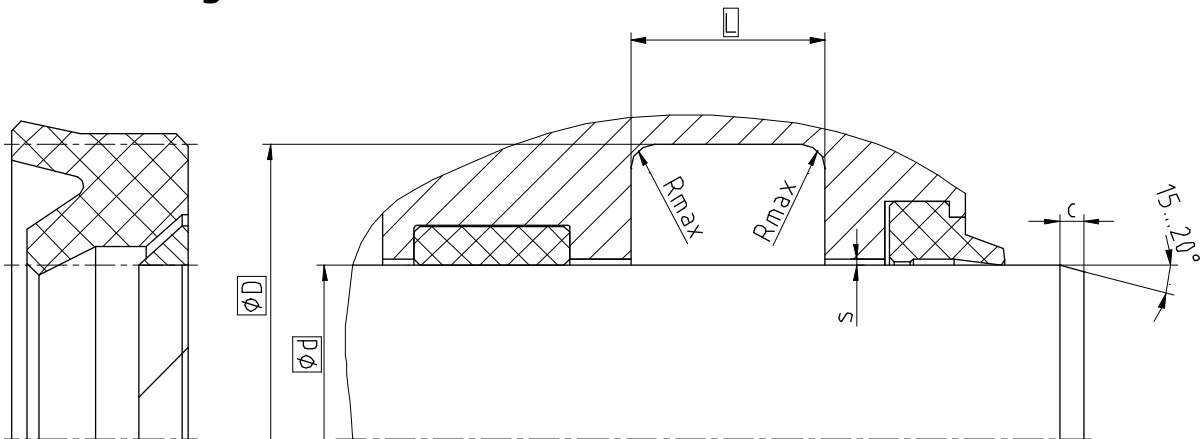
**Rod Seal S02-R**  
Profile

**100 x 115 x 10**  
d x D x L

**SKF ECORUBBER-1 / SKF ECOTAL**  
Sealing material / Backup ring

## Rod seals

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*		
					20 bar	100 bar	250 bar
> 16 ... ≤ 25	d + 8	6,3	0,4	3,5	0,60	0,80	0,52
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	1,00	1,00	0,66
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	1,50	1,40	0,78
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	2,00	1,66	0,88
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	2,50	1,91	1,00
> 500 ... ≤ 700	d + 30	25,0	0,4	10,0	3,00	2,18	1,13
> 700	d + 40	32,0	0,4	13,0	3,00	2,18	1,13

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

## Operating parameters

Sealing material	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECORUBBER-1</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C ... +100 °C</b>	<b>0,5 m/s</b>	<b>250 bar (25 MPa)</b>
SKF ECORUBBER-2	SKF ECOFLON 2	-20 °C ... +200 °C		
SKF ECORUBBER-3	SKF ECOTAL SKF ECOMID <sup>2</sup>	-40 °C ... +100 °C		
	SKF ECOFLON 2	-50 °C ... +150 °C		
SKF ECORUBBER-H	SKF ECOTAL SKF ECOMID <sup>2</sup>	-25 °C ... +100 °C		
	SKF ECOFLON 2	-25 °C ... +150 °C		
SKF ECOFLAS	SKF ECOPA EK	-10 °C ... +200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

## Ordering example

S02-RD, d=100mm, D=115mm, L=10mm, SKF ECORUBBER-1 / SKF ECOTAL

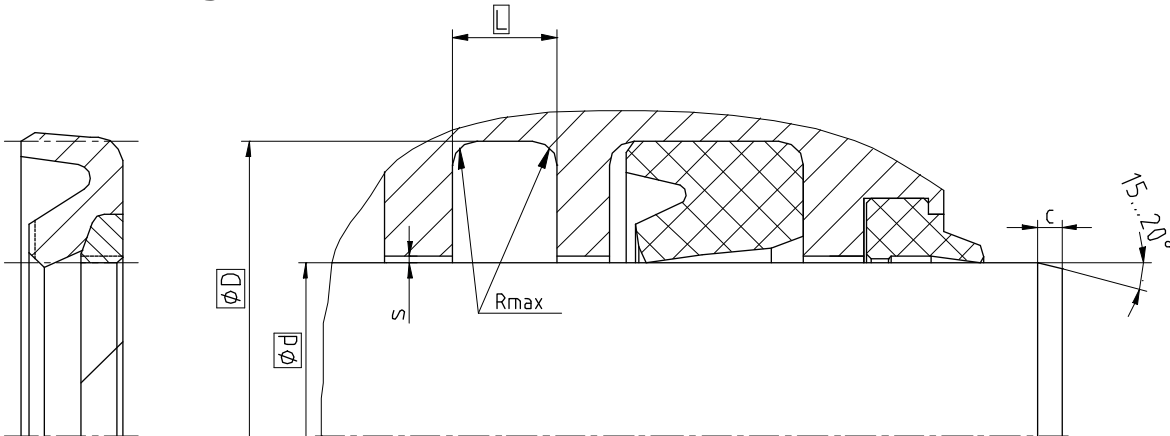
**Rod Seal S02-RD**  
Profile

**100 x 115 x 10**  
d x D x L

**SKF ECORUBBER-1 / SKF ECOTAL**  
Sealing material / Backup ring

## Rod seals

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	ØOD	max. radial extrusion gap s*			
						100 bar	200 bar	400 bar	600 bar
> 4 ... ≤ 8	d + 4,9	2,2	0,4	2,5	1,78	0,30	0,20	0,15	0,05
> 8 ... ≤ 19	d + 7,3	3,2	0,6	3,5	2,62	0,40	0,25	0,15	0,05
> 19 ... ≤ 38	d + 10,7	4,2	1,0	4,5	3,53	0,40	0,25	0,20	0,10
> 38 ... ≤ 200	d + 15,1	6,3	1,3	5,0	5,33	0,50	0,30	0,20	0,10
> 200 ... ≤ 256	d + 20,5	8,1	1,8	6,0	7,00	0,60	0,35	0,25	0,15
> 256 ... ≤ 600	d + 24,0	8,1	1,8	8,0	7,00	0,60	0,35	0,25	0,15

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

## Operating parameters

Sealing material	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	<b>5 m/s</b>	<b>400 bar (40 MPa)</b>
H-ECOPUR™		-20 °C...+100 °C	5 m/s	
S-ECOPUR™		-20 °C...+100 °C	7 m/s	
T-ECOPUR™		-40 °C...+100 °C	5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

## Ordering example

S02-S, d=100mm, D=115mm, L=10mm, ECOPUR® / SKF ECOTAL

**Rod Seal S02-S**

Profile

**100 x 115 x 10**

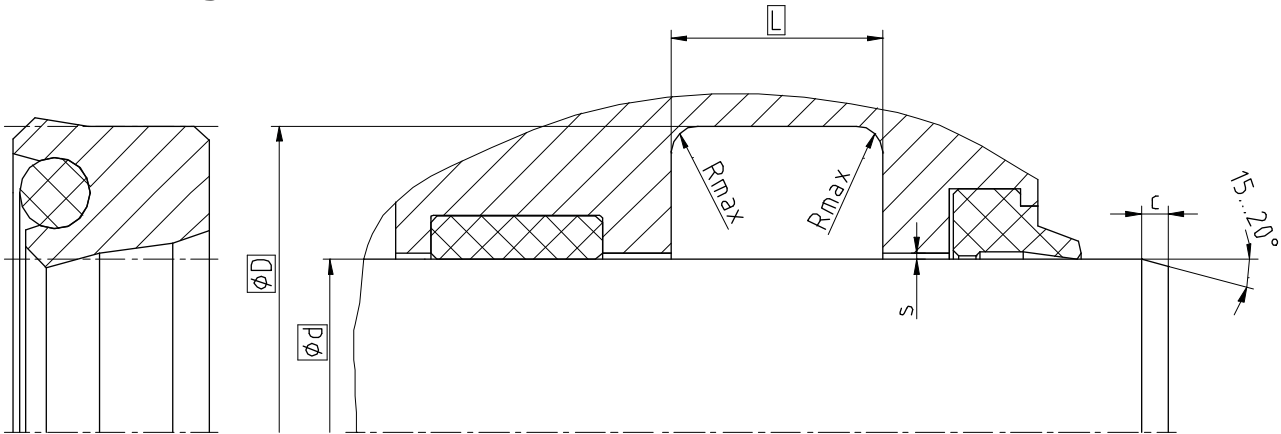
d x D x L

**ECOPUR® / SKF ECOTAL**

Sealing material / Backup ring

### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 5 ... ≤ 25	d + 8	6,3	0,4	3,5	0,33	0,18	0,10	0,05
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	0,37	0,23	0,15	0,10
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	0,46	0,33	0,25	0,18
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	0,54	0,38	0,33	0,25
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	0,61	0,45	0,40	0,33
> 500 ... ≤ 600	d + 30	25,0	0,4	10,0	0,67	0,50	0,45	0,40
> 600 ... ≤ 1000	d + 40	32,0	0,4	13,0	0,67	0,50	0,45	0,40
> 1000 ... ≤ 1600	d + 50	40,0	0,4	15,0	0,80	0,60	0,50	0,40
> 1600 ... ≤ 2000	d + 60	47,0	0,4	18,0	0,90	0,70	0,50	0,40
> 2000 ... ≤ 2500	d + 80	62,0	0,4	20,0	0,90	0,70	0,50	0,40

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>NBR70</b>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>400 bar (40 MPa)</b>
H-ECOPUR™		-20 °C...+100 °C		
S-ECOPUR™			0,7 m/s	
T-ECOPUR™	MVQ70	-50 °C...+110 °C	0,5 m/s	
G-ECOPUR™	NBR70	-30 °C...+100 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

S03-P, d=100mm, d=115mm, L=10mm, ECOPUR® / NBR70

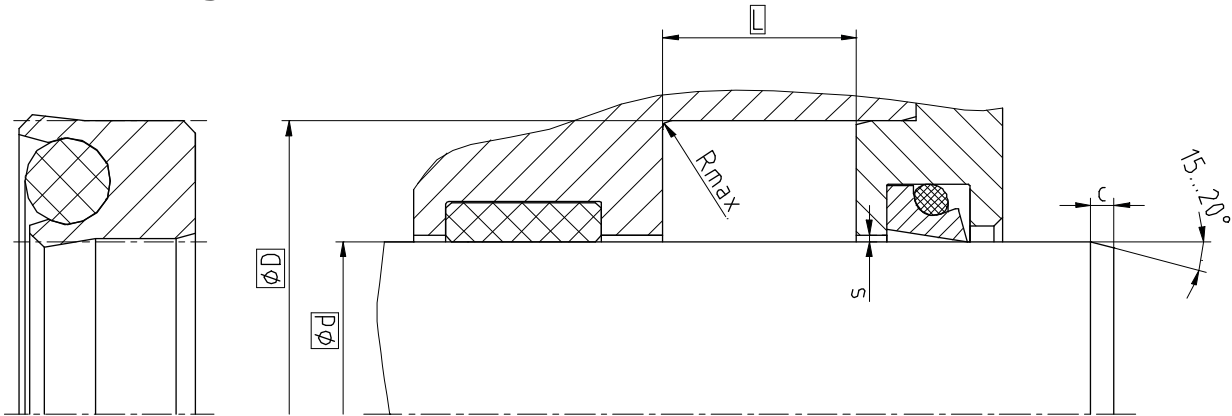
**Rod Seal S03-P**  
Profile

**100 x 115 x 10**  
d x D x L

**ECOPUR® / NBR 70**  
Sealing material / Energizer

### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 5 ... ≤ 25	d + 8	6,3	0,4	3,5	0,40	0,20	0,15	0,09
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	0,45	0,22	0,17	0,10
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	0,75	0,40	0,33	0,18
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	0,87	0,48	0,38	0,20
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	0,87	0,48	0,38	0,20
> 500 ... ≤ 600	d + 30	25,0	0,4	10,0	0,87	0,48	0,38	0,20

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOFLON 1	MVQ70	-55 °C...+200 °C	<b>1,0 m/s</b>	200 bar (20 MPa)
SKF ECOFLON 2	NBR70	-30 °C...+100 °C		<b>400 bar (40 MPa)</b>
<b>SKF ECOFLON 3</b>	<b>FPM75</b>	<b>-20 °C...+200 °C</b>		
SKF ECOFLON 4	EPDM70	-50 °C...+150 °C		
SKF ECOWEAR 1000	NBR70	-30 °C...+80 °C	0,5 m/s	200 bar (20 MPa)
	MVQ70	-55 °C...+80 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

S03-F, d=100mm, D=115mm, L=10mm, SKF ECOFLON 3 / FPM75

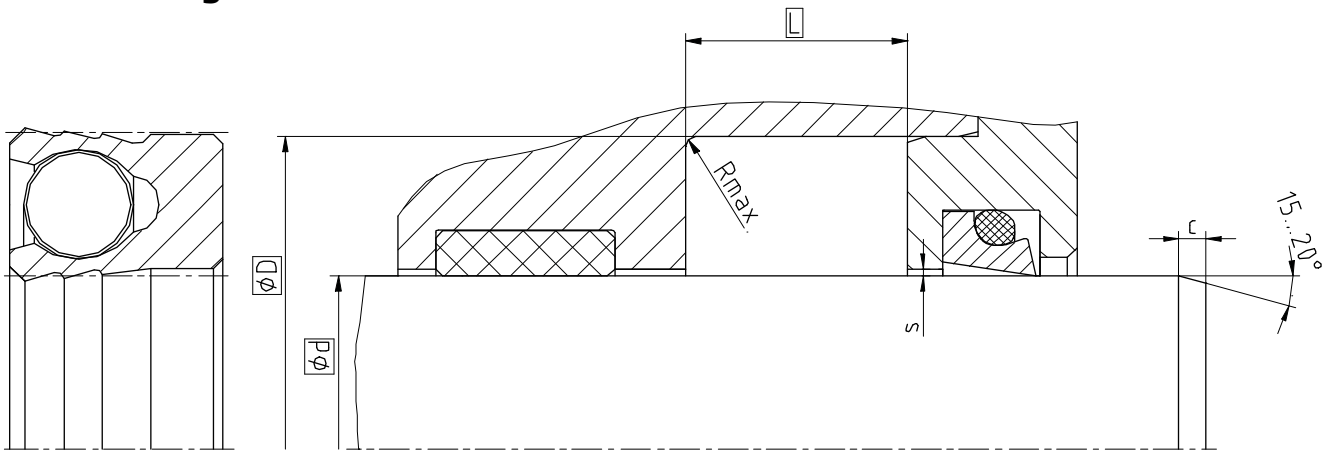
**Rod Seal S03-F**  
Profile

**100 x 115 x 10**  
d x D x L

**SKF ECOFLON 3 / FPM75**  
Sealing material / Energizer

### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*				
					20 bar	100 bar	200 bar	300 bar	400 bar
≥ 6 ... ≤ 10	d + 4	3,5	0,4	3,5	0,25	0,12	0,10	0,08	0,07
> 10 ... ≤ 30	d + 6	5,0	0,4	3,0	0,35	0,17	0,12	0,10	0,08
> 30 ... ≤ 120	d + 10	8,0	0,4	4,0	0,45	0,22	0,17	0,12	0,10
> 120 ... ≤ 200	d + 15	11,5	0,4	5,0	0,75	0,40	0,33	0,25	0,18
> 200 ... ≤ 250	d + 20	13,0	0,4	6,0	0,87	0,48	0,38	0,28	0,20
> 250 ... ≤ 500	d + 25	18,5	0,4	8,5	0,87	0,48	0,38	0,28	0,20
> 500 ... ≤ 1600	d + 30	23,0	0,4	10,0	0,87	0,48	0,38	0,28	0,20

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Spring	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOFLON 1	1.4310	-200 °C...+260 °C	1 m/s	200 bar (20 MPa)
SKF ECOFLON 2 SKF ECOFLON 3 SKF ECOFLON 4				400 bar (40 MPa)
SKF ECOWEAR 1000		-200 °C...+80 °C	0,5 m/s	200 bar (20 MPa)

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

S03-S, d=100mm, D=110mm, L=8,0mm, SKF ECOFLON 3 / 1.4310

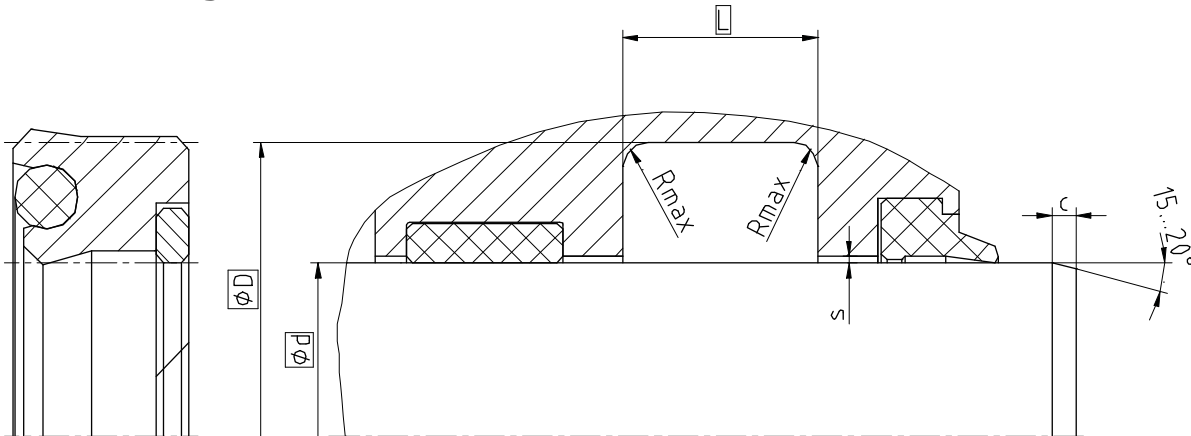
**Rod Seal S03-S**  
Profile

**100 x 110 x 8**  
d x D x L

**SKF ECOFLON 3 / 1.4310**  
Sealing material / Spring

## Rod seals

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	400 bar	700 bar
≥ 22 ... ≤ 25	d + 8	6,3	0,4	3,5	0,80	0,80	0,30	0,04
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	1,00	1,00	0,37	0,04
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	1,50	1,47	0,46	0,05
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	2,00	1,77	0,54	0,06
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	2,50	2,06	0,62	0,06
> 500 ... ≤ 600	d + 30	25,0	0,4	10,0	3,00	2,43	0,76	0,06

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

## Operating parameters

Sealing material	Energizer	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>NBR70</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>700 bar</b> <b>(70 MPa)</b>
H-ECOPUR™			-20 °C...+100 °C		
S-ECOPUR™				0,7 m/s	
T-ECOPUR™	<b>MVQ70</b>		-40 °C...+100 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

## Ordering example

S04-P, d=100mm, D=115mm, L=10mm, ECOPUR® / NBR70 / SKF ECOTAL

**Rod Seal S04-P 100 x 115 x 10 ECOPUR® / NBR70 / SKF ECOTAL**

Profile

d x D x L

Sealing material / Energizer

# Seal data sheet

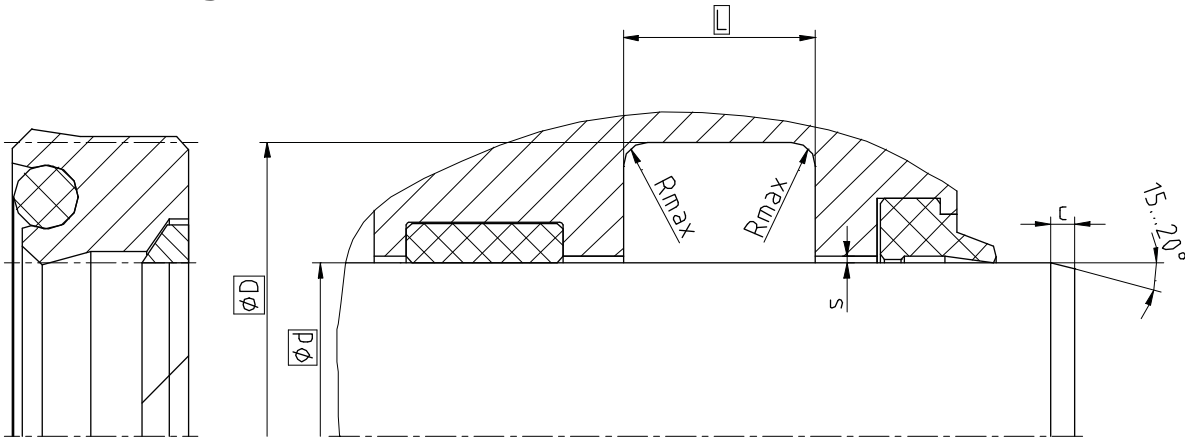
S04-PD



2008-09

## Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	400 bar	700 bar
> 16 ... ≤ 25	d + 8	6,3	0,4	3,5	0,80	0,80	0,30	0,04
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	1,00	1,00	0,37	0,04
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	1,50	1,47	0,46	0,05
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	2,00	1,77	0,54	0,06
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	2,50	2,06	0,62	0,06
> 500 ... ≤ 600	d + 30	25,0	0,4	10,0	3,00	2,43	0,76	0,06

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>NBR70</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>700 bar (70 MPa)</b>
H-ECOPUR™			-20 °C...+100 °C		
S-ECOPUR™				0,7 m/s	
T-ECOPUR™	<b>MVQ70</b>		-40 °C...+100 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

S04-PD, d=100mm, D=115mm, L=10mm, ECOPUR® / NBR70 / SKF ECOTAL

**Rod Seal S04-PD**

Profile

**100 x 115 x 10**

d x D x L

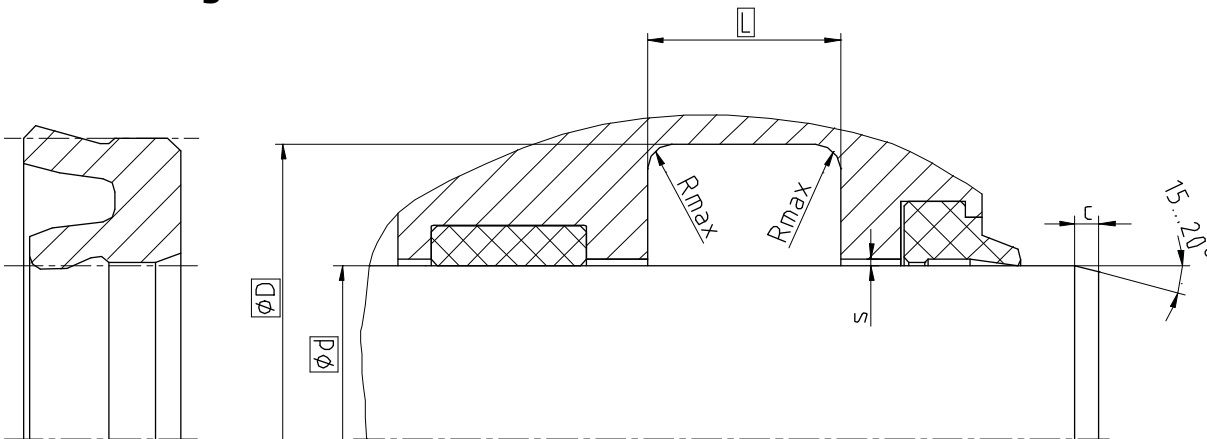
**ECOPUR® / NBR70 / SKF ECOTAL**

Sealing material / Energizer / Backup ring



### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	s*
≥ 5 ... ≤ 25	d + 8	6,3	0,4	3,5	0,33
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	0,37
> 50 ... ≤ 150	d + 12	9,0	0,4	5,0	0,46
> 150 ... ≤ 300	d + 16	14,0	0,4	6,0	0,54
> 300 ... ≤ 500	d + 20	17,0	0,4	8,5	0,61
> 500 ... ≤ 700	d + 24	25,0	0,4	10,0	0,67
> 700 ... ≤ 1000	d + 30	32,0	0,4	13,0	0,67
> 1000	d + 40	32,0	0,4	13,0	0,67

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>1 m/s</b>	<b>25 bar (2,5 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C		
S-ECOPUR™		2 m/s	
T-ECOPUR™	-50 °C...+110 °C	1 m/s	
G-ECOPUR™	-30 °C...+110 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

S05-P, d=100mm, D=112mm, L=10mm, ECOPUR®

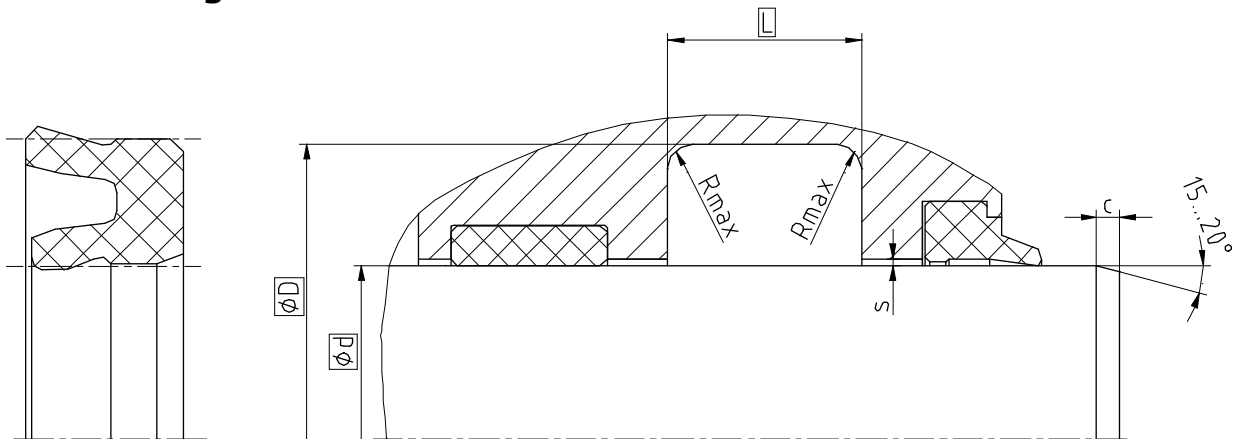
**Rod Seal S05-P**  
Profile

**100 x 112 x 10**  
d x D x L

**ECOPUR®**  
Sealing material

### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	s*
≥ 5 ... ≤ 25	d + 8	6,3	0,4	3,5	0,33
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	0,37
> 50 ... ≤ 150	d + 12	10,0	0,4	5,0	0,46
> 150 ... ≤ 300	d + 16	14,0	0,4	6,0	0,54
> 300 ... ≤ 500	d + 20	17,0	0,4	8,5	0,61
> 500 ... ≤ 700	d + 24	25,0	0,4	10,0	0,67
> 700 ... ≤ 1000	d + 30	32,0	0,4	13,0	0,67
> 1000	d + 40	32,0	0,4	13,0	0,67

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Temperature	max. speed	max. pressure
<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	<b>1 m/s</b>	<b>25 bar (2,5 MPa)</b>
SKF ECORUBBER-2	-20 °C...+200 °C		
SKF ECORUBBER-3	-50 °C...+150 °C		
SKF ECORUBBER-H	-25 °C...+150 °C		
SKF ECOFLAS	-10 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

S05-R, d=100mm, D=112 mm, L=10mm, SKF ECORUBBER-1

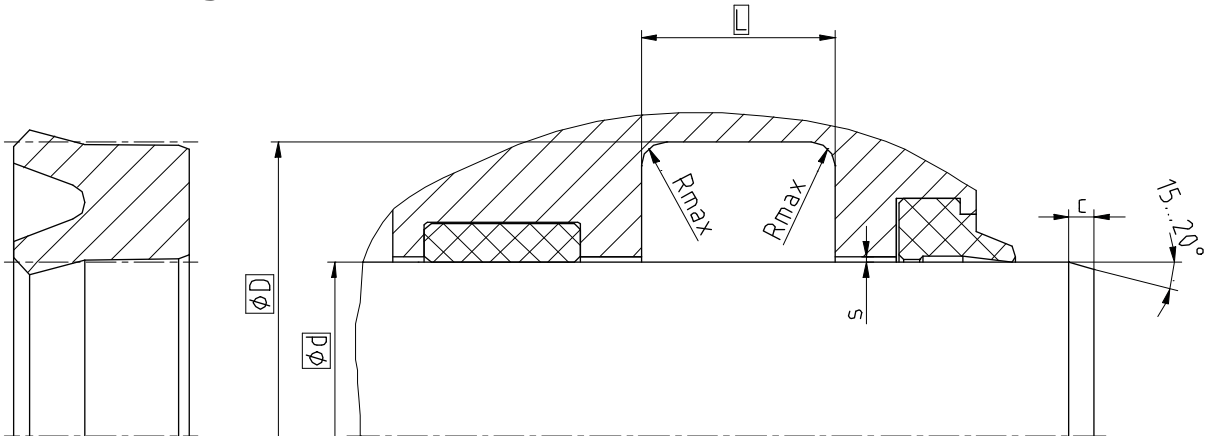
**Rod Seal S05-R**  
Profile

**100 x 112 x 10**  
d x D x L

**SKF ECORUBBER-1**  
Sealing material

### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 6 ... ≤ 25	d + 8	6,3	0,4	3,5	0,33	0,17	0,11	0,05
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	0,37	0,22	0,16	0,10
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	0,46	0,31	0,25	0,19
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	0,54	0,39	0,32	0,26
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	0,61	0,46	0,39	0,33
> 500 ... ≤ 700	d + 30	25,0	0,4	10,0	0,67	0,52	0,45	0,39
> 700	d + 40	32,0	0,4	13,0	0,67	0,52	0,45	0,39

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>0,5 m/s</b>	<b>400 bar (40 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C		
S-ECOPUR™		0,7 m/s	
T-ECOPUR™	-50 °C...+110 °C	0,5 m/s	
G-ECOPUR™	-30 °C...+110 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

S06-P, d=100mm, D=115mm, L=10mm, ECOPUR®

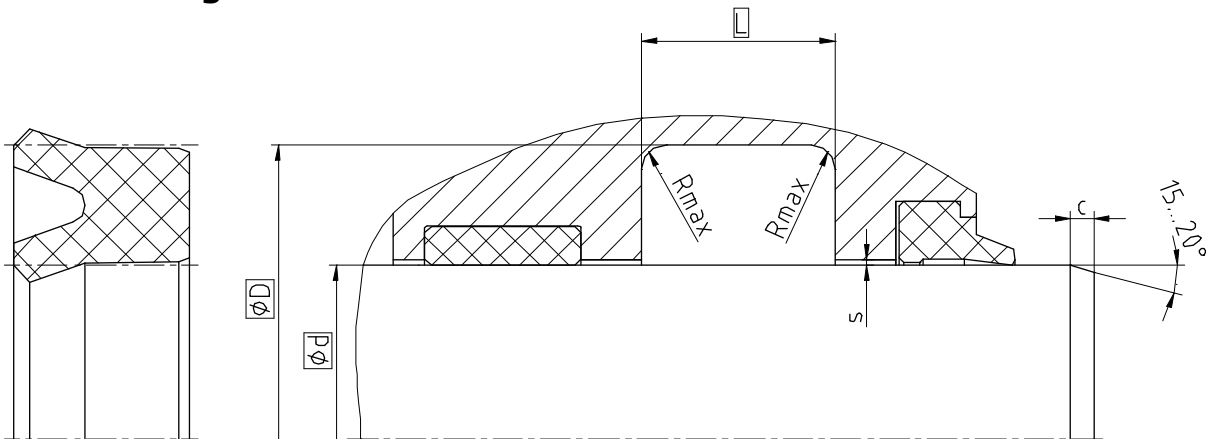
**Rod Seal S06-P**  
Profile

**100 x 115 x 10**  
d x D x L

**ECOPUR®**  
Sealing material

### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions... □

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*		
					20 bar	100 bar	160 bar
≥ 6 ... ≤ 25	d + 8	6,3	0,4	3,5	0,23	0,16	0,14
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	0,26	0,19	0,17
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	0,31	0,24	0,22
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	0,34	0,27	0,25
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	0,37	0,30	0,29
> 500 ... ≤ 700	d + 30	25,0	0,4	10,0	0,40	0,34	0,32
> 700	d + 40	32,0	0,4	13,0	0,40	0,34	0,32

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>160 bar (16 MPa)</b>
SKF ECORUBBER-2	-20 °C...+200 °C		
SKF ECORUBBER-3	-50 °C...+150 °C		
SKF ECORUBBER-H	-25 °C...+150 °C		
SKF ECOSIL	-60 °C...+200 °C	-	-
SKF ECOFLAS	-10 °C...+200 °C	0,5 m/s	160 bar (16 MPa)

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

S06-R, d=100mm, D=115mm, L=10mm, SKF ECORUBBER-1

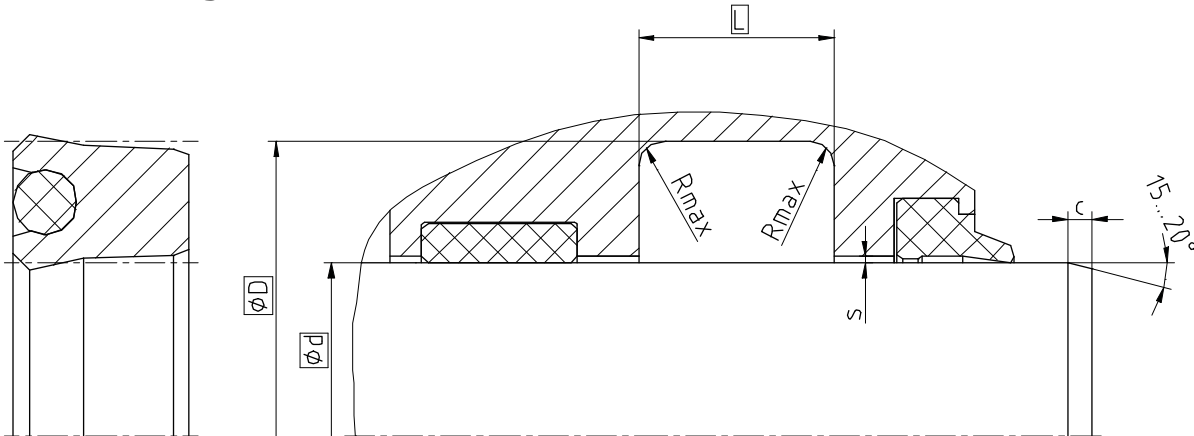
**Rod Seal S06-R**  
Profile

**100 x 115 x 10**  
d x D x L

**SKF ECORUBBER-1**  
Sealing material

### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 5 ... ≤ 25	d + 8	6,3	0,4	3,5	0,33	0,17	0,11	0,05
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	0,37	0,22	0,16	0,10
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	0,46	0,31	0,25	0,19
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	0,54	0,39	0,32	0,26
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	0,61	0,46	0,39	0,33
> 500 ... ≤ 600	d + 30	25,0	0,4	10,0	0,67	0,52	0,45	0,39

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>NBR70</b>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>400 bar (40 MPa)</b>
H-ECOPUR™		-20 °C...+100 °C		
S-ECOPUR™			0,7 m/s	
T-ECOPUR™	<b>MVQ70</b>	-50 °C...+110 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

S07-P, d=100mm, D=115mm, L=10mm, ECOPUR / NBR70

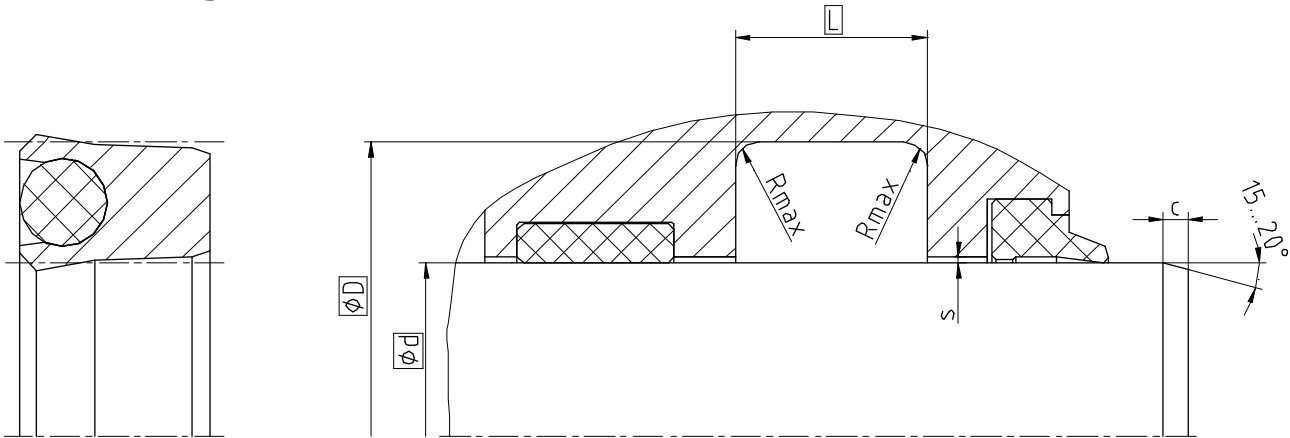
**Rod Seal S07-P**  
Profile

**100 x 115 x 10**  
d x D x L

**ECOPUR® / NBR70**  
Sealing material / Energizer

## Rod seals

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 5 ... ≤ 25	d + 8	6,3	0,4	3,5	0,40	0,20	0,15	0,09
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	0,45	0,22	0,17	0,10
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	0,75	0,40	0,33	0,18
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	0,87	0,48	0,38	0,20
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	0,87	0,48	0,38	0,20
> 500 ... ≤ 600	d + 30	25,0	0,4	10,0	0,87	0,48	0,38	0,20

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

## Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOFLON 1	MVQ70	-55 °C...+200 °C	<b>1,0 m/s</b>	200 bar (20 MPa)
SKF ECOFLON 2	NBR70	-30 °C...+100 °C		<b>400 bar (40 MPa)</b>
<b>SKF ECOFLON 3</b>	<b>FPM75</b>	<b>-20 °C...+200 °C</b>		
SKF ECOFLON 4	EPDM70	-50 °C...+150 °C		
SKF ECOWEAR 1000	NBR70	-30 °C...+80 °C	0,5 m/s	200 bar (20 MPa)
	FPM75	-20 °C...+80 °C		
	EPDM70	-50 °C...+80 °C		
	MVQ70	-55 °C...+80 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

## Ordering example

S07-F, d=100mm, D=115mm, L=10mm, SKF ECOFLON 3 / FPM75

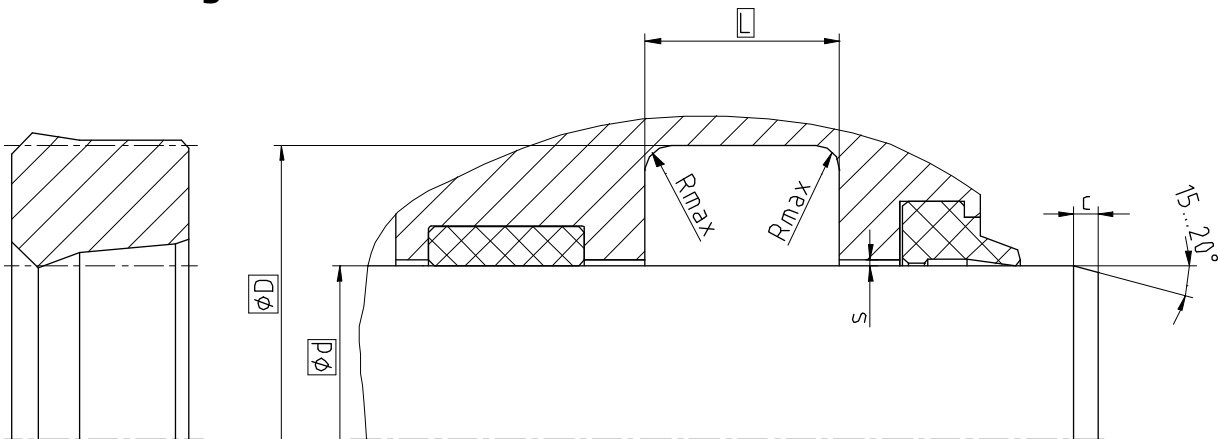
**Rod Seal S07-F**  
Profile

**100 x 115 x 10**  
d x D x L

**SKF ECOFLON 3 / FPM75**  
Sealing material / Energizer

## Rod seals

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 5 ... ≤ 25	d + 8	6,3	0,4	3,5	0,33	0,17	0,11	0,05
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	0,37	0,22	0,16	0,10
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	0,46	0,31	0,25	0,19
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	0,54	0,39	0,32	0,26
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	0,61	0,46	0,39	0,33
> 500 ... ≤ 600	d + 30	25,0	0,4	10,0	0,67	0,52	0,45	0,39
> 600	d + 40	32,0	0,4	13,0	0,67	0,52	0,45	0,39

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

## Operating parameters

Sealing material	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>0,3 m/s</b>	<b>400 bar (40 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C	0,3 m/s	
S-ECOPUR™	-20 °C...+110 °C	0,4 m/s	
T-ECOPUR™	-50 °C...+110 °C	0,3 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

## Ordering example

S08-P, d=100mm, D=115mm, L=10mm, ECOPUR®

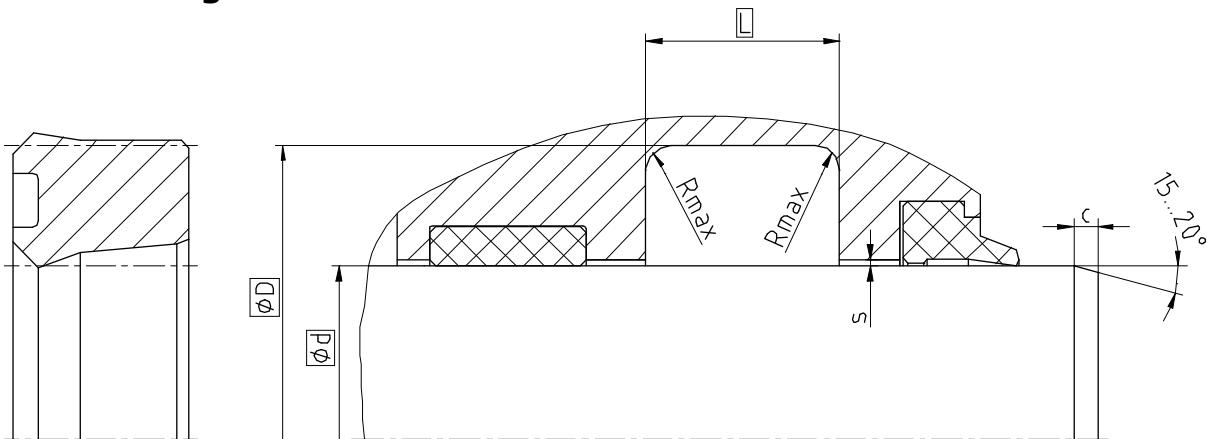
**Rod Seal S08-P**  
Profile

**100 x 115 x 10**  
d x D x L

**ECOPUR®**  
Sealing material

### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 5 ... ≤ 25	d + 8	6,3	0,4	3,5	0,33	0,17	0,11	0,05
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	0,37	0,22	0,16	0,10
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	0,46	0,31	0,25	0,19
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	0,54	0,39	0,32	0,26
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	0,61	0,46	0,39	0,33
> 500 ... ≤ 600	d + 30	25,0	0,4	10,0	0,67	0,52	0,45	0,39

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>0,3 m/s</b>	<b>400 bar (40 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C	0,3 m/s	
S-ECOPUR™	-20 °C...+110 °C	0,4 m/s	
T-ECOPUR™	-50 °C...+110 °C	0,3 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

S08-PE, d=100mm, D=115mm, L=10mm, ECOPUR®

**Rod Seal S08-PE**  
Profile

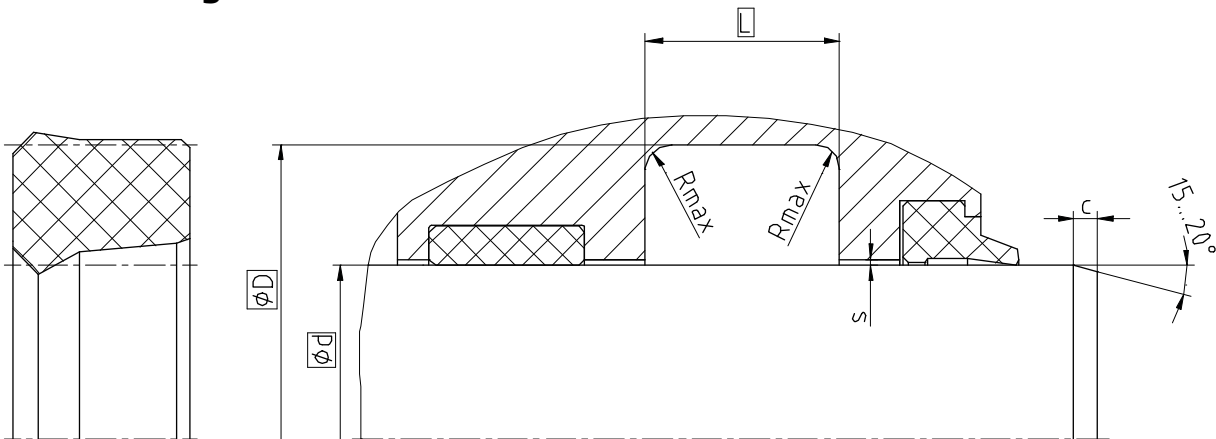
**100 x 115 x 10**  
d x D x L

**ECOPUR®**  
Sealing material



## Rod seals

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 μm	0,1...0,5 μm
Bottom of groove	≤ 6,3 μm	≤ 1,6 μm
Groove face	≤ 15 μm	≤ 3 μm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*		
					20 bar	100 bar	160 bar
≥ 5 ... ≤ 25	d + 8	6,3	0,4	3,5	0,23	0,16	0,14
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	0,26	0,19	0,17
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	0,31	0,24	0,22
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	0,34	0,27	0,25
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	0,37	0,30	0,29
> 500 ... ≤ 600	d + 30	25,0	0,4	10,0	0,40	0,34	0,32

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

## Operating parameters

Sealing material	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	<b>0,3 m/s</b>	<b>160 bar (16 MPa)</b>
SKF ECORUBBER-2	-20 °C...+200 °C		
SKF ECORUBBER-3	-50 °C...+150 °C		
SKF ECORUBBER-H	-25 °C...+150 °C		
SKF ECOFLAS	-10 °C...+200°C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

## Ordering example

S08-R, d=100mm, D=115mm, L=10mm, SKF ECORUBBER-1

**Rod Seal S08-R**

Profile

**100 x 115 x 10**

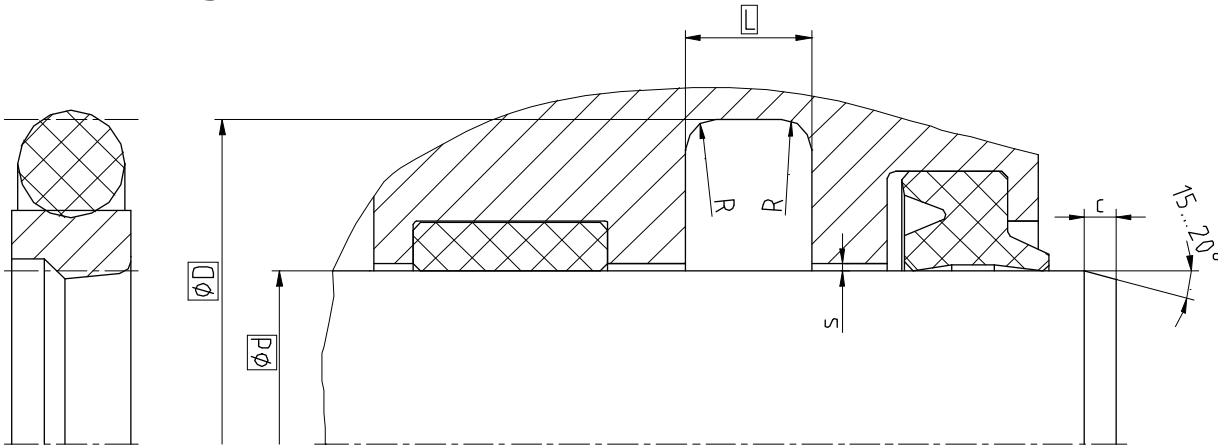
d x D x L

**SKF ECORUBBER-1**

Sealing material

### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	R	c	ØOD	max. radial extrusion gap s*			
						100 bar	200 bar	400 bar	600 bar
> 4 ... ≤ 8	d + 4,9	2,2	0,4	2,5	1,78	0,30	0,30	0,20	0,10
> 8 ... ≤ 19	d + 7,3	3,2	0,6	3,5	2,62	0,40	0,30	0,20	0,10
> 19 ... ≤ 38	d + 10,7	4,2	1,0	4,5	3,53	0,50	0,40	0,30	0,20
> 38 ... ≤ 200	d + 15,1	6,3	1,3	5,0	5,33	0,50	0,40	0,30	0,20
> 200 ... ≤ 256	d + 20,5	8,1	1,8	6,0	7,00	0,70	0,50	0,40	0,20
> 256 ... ≤ 650	d + 24,0	8,1	1,8	8,0	7,00	0,70	0,50	0,40	0,20
> 650 ... ≤ 1000	d + 27,3	9,5	2,5	10,0	8,40	0,80	0,70	0,50	0,30
> 1000 ... ≤ 3000	d + 38,0	13,8	3,0	12,0	12,00	1,10	0,80	0,70	0,40

\* Extrusion gap applies to a temperature of 80 °C, higher temperatures require lower values.

### Operating parameters

Glide ring	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
<b>X-ECOPUR™</b> XH-ECOPUR™ XS-ECOPUR™ G-ECOPUR 54D™	<b>NBR70</b>	<b>-30 °C...+100 °C</b>	<b>5 m/s</b>	<b>600 bar (60 MPa)</b>
	MVQ70	-55 °C...+110 °C		
SKF ECOWEAR 1000	NBR70	-30 °C...+80 °C		400 bar (40 MPa)
	MVQ70	-55 °C...+80 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

X-Slide S09-E, d=100mm, D=115,1mm, L=6,3mm, X-ECOPUR™ / NBR70

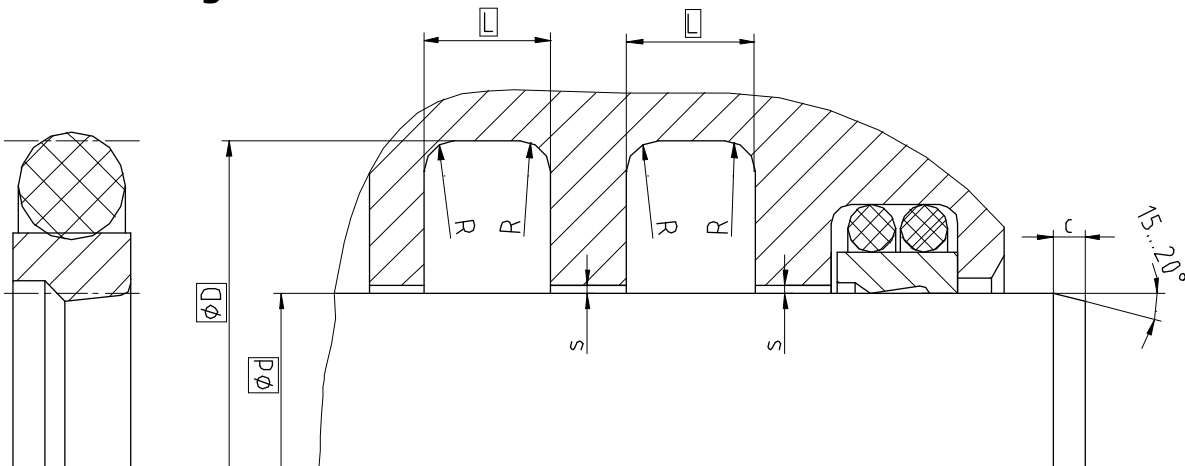
**X-Slide S09-E**  
Profile

**100 x 115,1 x 6,3**  
d x D x L

**X-ECOPUR™ / NBR70**  
Sealing material / Energizer

### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	R	c	ØOD	max. radial extrusion gap s*			
						100 bar	200 bar	400 bar	600 bar
> 4 ... ≤ 8	d + 4,9	2,2	0,4	2,5	1,78	0,30	0,20	0,15	0,05
> 8 ... ≤ 19	d + 7,3	3,2	0,6	3,5	2,62	0,40	0,25	0,15	0,05
> 19 ... ≤ 38	d + 10,7	4,2	1,0	4,5	3,53	0,40	0,25	0,20	0,10
> 38 ... ≤ 200	d + 15,1	6,3	1,3	5,0	5,33	0,50	0,30	0,20	0,10
> 200 ... ≤ 256	d + 20,5	8,1	1,8	6,0	7,00	0,60	0,35	0,25	0,15
> 256 ... ≤ 650	d + 24,0	8,1	1,8	8,0	7,00	0,60	0,35	0,25	0,15
> 650 ... ≤ 1000	d + 27,3	9,5	2,5	10,0	8,40	0,70	0,50	0,30	0,20
> 1000 ... ≤ 2000	d + 38,0	13,8	3,0	12,0	12,00	1,00	0,70	0,60	0,30

\* Extrusion gap applies to a temperature of 80 °C, higher temperatures require lower values.

### Operating parameters

Glide ring	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOFLON 2 SKF ECOFLON 3	<b>NBR70</b>	<b>-30 °C...+100 °C</b>	<b>10 m/s</b>	<b>600 bar (60 MPa)</b>
<b>SKF ECOFLON 3F</b> SKF ECOFLON 4		FPM70		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

F-Slide S09-E, d=100mm, D=115,1mm, L=6,3mm, SKF ECOFLON 3F / NBR70

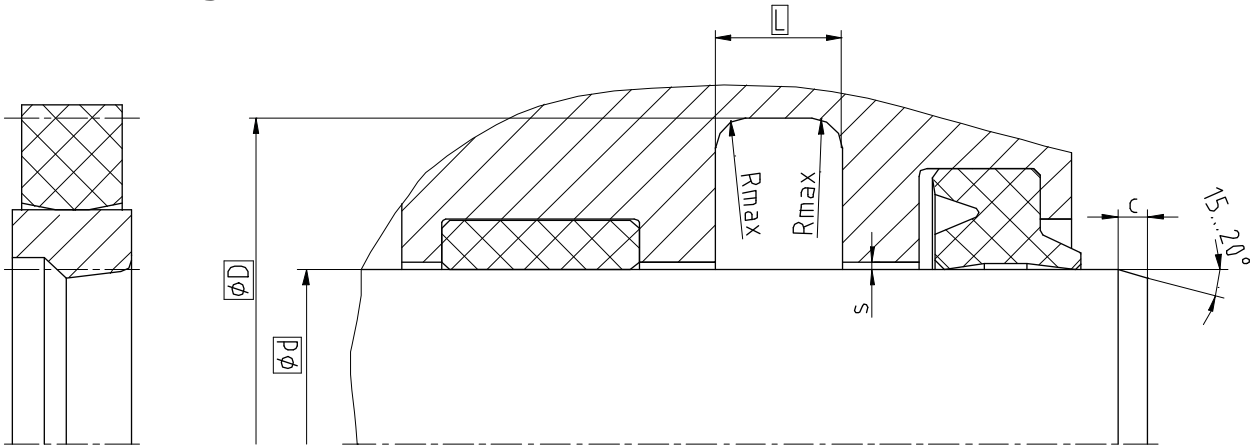
**F-Slide S09-E**  
Profile

**100 x 115,1 x 6,3**  
d x D x L

**SKF ECOFLON 3F / NBR70**  
Sealing material / Energizer

### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					100 bar	200 bar	400 bar	600 bar
> 4 ... ≤ 50	d + 10	5,0	0,2	4,0	0,50	0,40	0,30	0,20
> 50 ... ≤ 60	d + 15	7,5	0,3	5,0	0,50	0,40	0,30	0,20
> 60 ... ≤ 200	d + 20	10,0	0,4	6,0	0,70	0,50	0,40	0,20
> 200 ... ≤ 300	d + 25	12,5	0,4	8,5	0,80	0,60	0,50	0,30
> 300 ... ≤ 530	d + 30	15,0	0,8	10,0	0,90	0,70	0,60	0,30
> 530 ... ≤ 680	d + 35	17,5	1,2	11,5	1,00	0,80	0,70	0,30
> 680 ... ≤ 1500	d + 40	20,0	1,2	13,0	1,10	0,90	0,80	0,40

\* Extrusion gap applies to a temperature of 80 °C, higher temperatures require lower values.

### Operating parameters

Glide ring	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
<b>X-ECOPUR™</b> XH-ECOPUR™ XS-ECOPUR™ G-ECOPUR 54D™	<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	<b>5 m/s</b>	<b>600 bar (60 MPa)</b>
	ECOSIL	-60 °C...+110 °C		
SKF ECOWEAR 1000	SKF ECORUBBER-1	-30 °C...+80 °C		400 bar (40 MPa)
	SKF ECOSIL	-60 °C...+80 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

X-Slide S09-ES, d=100mm, D=120mm, L=10mm, X-ECOPUR™ / SKF ECORUBBER-1

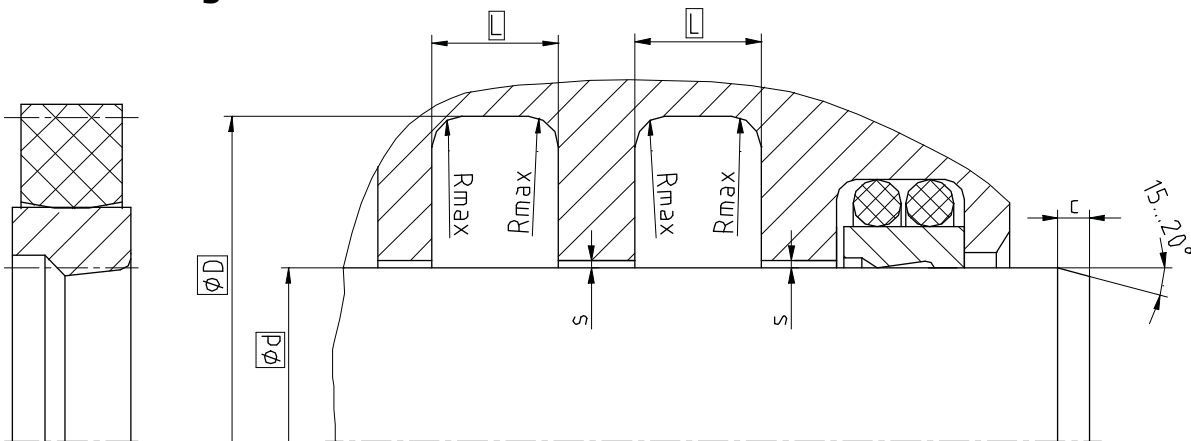
**X-Slide S09-ES**  
Profile

**100 x 120 x 10**  
d x D x L

**X-ECOPUR™ / SKF ECORUBBER-1**  
Sealing material / Energizer

### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					100 bar	200 bar	400 bar	600 bar
> 4 ... ≤ 50	d + 10	5,0	0,2	4,0	0,40	0,30	0,20	0,10
> 50 ... ≤ 60	d + 15	7,5	0,3	5,0	0,50	0,30	0,20	0,10
> 60 ... ≤ 200	d + 20	10,0	0,4	6,0	0,60	0,40	0,25	0,15
> 200 ... ≤ 300	d + 25	12,5	0,4	8,5	0,60	0,40	0,25	0,15
> 300 ... ≤ 530	d + 30	15,0	0,8	10,0	0,70	0,50	0,30	0,20
> 530 ... ≤ 680	d + 35	17,5	1,2	11,5	0,80	0,60	0,50	0,20
> 680 ... ≤ 1500	d + 40	20,0	1,2	13,0	1,00	0,70	0,60	0,30

\* Extrusion gap applies to a temperature of 80 °C, higher temperatures require lower values.

### Operating parameters

Glide ring	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOFLON 2 SKF ECOFLON 3 <b>SKF ECOFLON 3F</b> SKF ECOFLON 4	<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	<b>10 m/s</b>	<b>600 bar (60 MPa)</b>
	SKF ECORUBBER-2	-20 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

F-Slide S09-ES, d=100mm, D=120mm, L=10mm, SKF ECOFLON 3F / SKF ECORUBBER-1

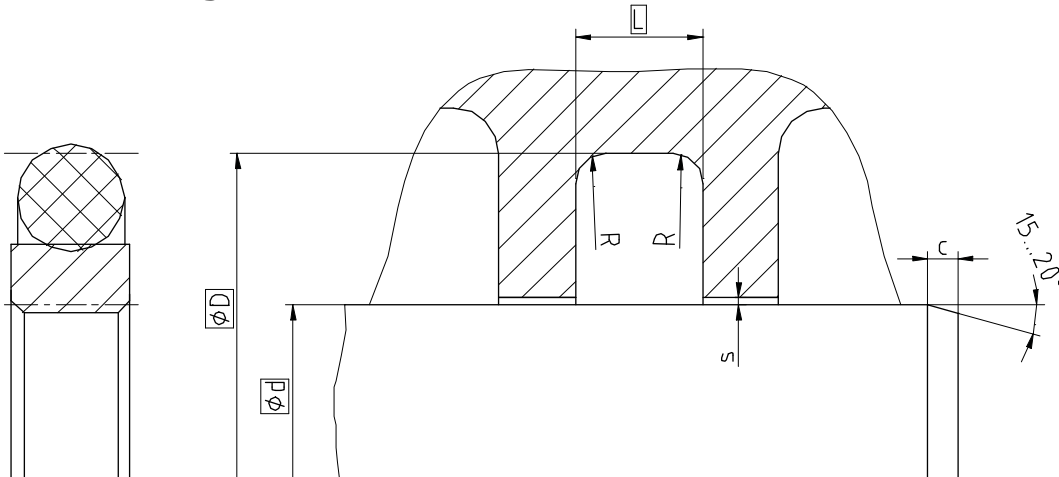
**F-Slide S09-ES**  
Profile

**100 x 120 x 10**  
d x D x L

**SKF ECOFLON 3F / SKF ECORUBBER-1**  
Sealing material / Energizer

### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	R	c	ØOD	max. radial extrusion gap s*			
						100 bar	200 bar	400 bar	600 bar
> 4 ... ≤ 8	d + 4,9	2,2	0,4	2,5	1,78	0,30	0,30	0,20	0,10
> 8 ... ≤ 19	d + 7,3	3,2	0,6	3,5	2,62	0,40	0,30	0,20	0,10
> 19 ... ≤ 38	d + 10,7	4,2	1,0	4,5	3,53	0,50	0,40	0,30	0,20
> 38 ... ≤ 200	d + 15,1	6,3	1,3	5,0	5,33	0,50	0,40	0,30	0,20
> 200 ... ≤ 256	d + 20,5	8,1	1,8	6,0	7,00	0,70	0,50	0,40	0,20
> 256 ... ≤ 650	d + 24,0	8,1	1,8	8,0	7,00	0,70	0,50	0,40	0,20
> 650 ... ≤ 1000	d + 27,3	9,5	2,5	10,0	8,40	0,80	0,70	0,50	0,30
> 1000 ... ≤ 3000	d + 38,0	13,8	3,0	12,0	12,00	1,10	0,80	0,70	0,40

\* Extrusion gap applies to a temperature of 80 °C, higher temperatures require lower values.

### Operating parameters

Glide ring	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
<b>X-ECOPUR™</b> XH-ECOPUR™ XS-ECOPUR™ G-ECOPUR 54D™	<b>NBR70</b>	<b>-30 °C...+100 °C</b>	<b>5 m/s</b>	<b>600 bar (60 MPa)</b>
	MVQ70	-55 °C...+110 °C		
SKF ECOWEAR 1000	NBR70	-30 °C...+80 °C		400 bar (40 MPa)
	MVQ70	-55 °C...+80 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

X-Slide S09-D, d=100mm, D=115,1mm, L=6,3mm, X-ECOPUR™ / NBR70

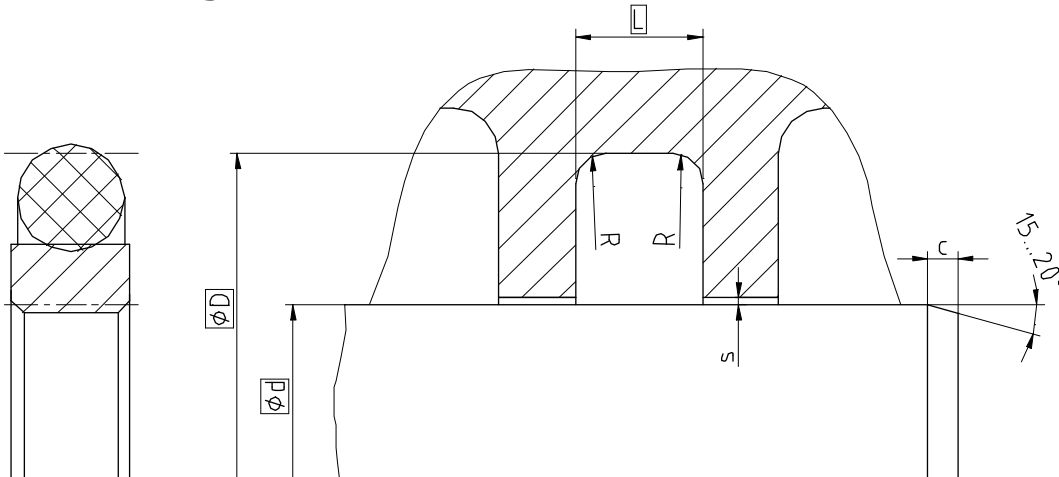
**X-Slide S09-D**  
Profile

**100 x 115,1 x 6,3**  
d x D x L

**X-ECOPUR™ / NBR70**  
Sealing material / Energizer

### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	R	c	ØOD	max. radial extrusion gap s*			
						100 bar	200 bar	400 bar	600 bar
> 4 ... ≤ 8	d + 4,9	2,2	0,4	2,5	1,78	0,30	0,20	0,15	0,05
> 8 ... ≤ 19	d + 7,3	3,2	0,6	3,5	2,62	0,40	0,25	0,15	0,05
> 19 ... ≤ 38	d + 10,7	4,2	1,0	4,5	3,53	0,40	0,25	0,20	0,10
> 38 ... ≤ 200	d + 15,1	6,3	1,3	5,0	5,33	0,50	0,30	0,20	0,10
> 200 ... ≤ 256	d + 20,5	8,1	1,8	6,0	7,00	0,60	0,35	0,25	0,15
> 256 ... ≤ 650	d + 24,0	8,1	1,8	8,0	7,00	0,60	0,35	0,25	0,15
> 650 ... ≤ 1000	d + 27,3	9,5	2,5	10,0	8,40	0,70	0,50	0,30	0,20
> 1000 ... ≤ 2000	d + 38,0	13,8	3,0	12,0	12,00	1,00	0,70	0,60	0,30

\* Extrusion gap applies to a temperature of 80 °C, higher temperatures require lower values.

### Operating parameters

Glide ring	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOFLON 2 SKF ECOFLON 3 <b>SKF ECOFLON 3F</b> SKF ECOFLON 4	<b>NBR70</b>	<b>-30 °C...+100 °C</b>	<b>10 m/s</b>	<b>600 bar (60 MPa)</b>
	FPM70	-20 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

F-Slide S09-D, d=100mm, D=115,1mm, L=6,3mm, SKF ECOFLON 3F / NBR70

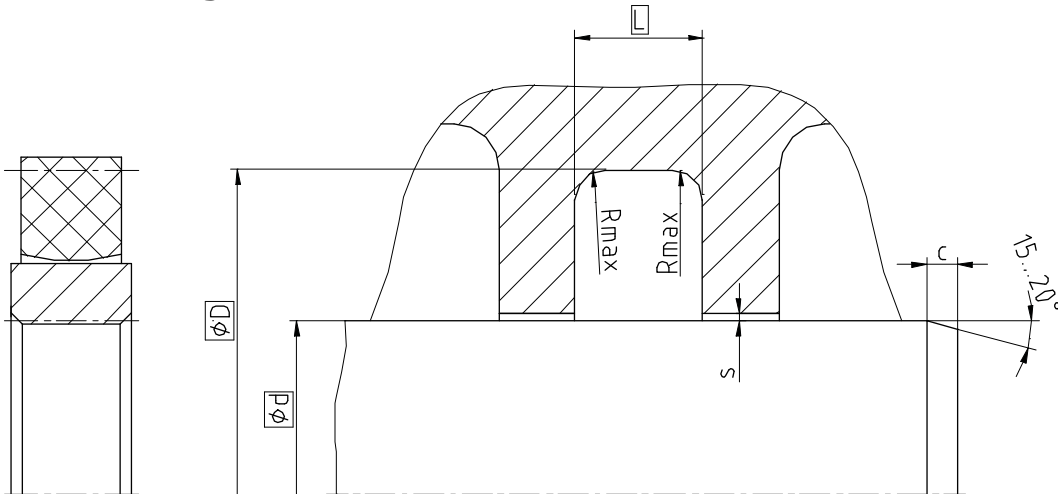
**F-Slide S09-D**  
Profile

**100 x 115,1 x 6,3**  
d x D x L

**SKF ECOFLON 3F / NBR70**  
Sealing material / Energizer

### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					100 bar	200 bar	400 bar	600 bar
> 4 ... ≤ 50	d + 10	5,0	0,2	4,0	0,50	0,40	0,30	0,20
> 50 ... ≤ 60	d + 15	7,5	0,3	5,0	0,50	0,40	0,30	0,20
> 60 ... ≤ 200	d + 20	10,0	0,4	6,0	0,70	0,50	0,40	0,20
> 200 ... ≤ 300	d + 25	12,5	0,4	8,5	0,80	0,60	0,50	0,30
> 300 ... ≤ 530	d + 30	15,0	0,8	10,0	0,90	0,70	0,60	0,30
> 530 ... ≤ 680	d + 35	17,5	1,2	11,5	1,00	0,80	0,70	0,30
> 680 ... ≤ 1500	d + 40	20,0	1,2	13,0	1,10	0,90	0,80	0,40

\* Extrusion gap applies to a temperature of 80 °C, higher temperatures require lower values.

### Operating parameters

Glide ring	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
<b>X-ECOPUR™</b> XH-ECOPUR™ XS-ECOPUR™ G-ECOPUR 54D™	<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	<b>5 m/s</b>	<b>600 bar (60 MPa)</b>
	ECOSIL	-60 °C...+110 °C		
SKF ECOWEAR 1000	SKF ECORUBBER-1	-30 °C...+80 °C		400 bar (40 MPa)
	SKF ECOSIL	-60 °C...+80 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

X-Slide S09-DS, d=100mm, D=120mm, L=10mm, X-ECOPUR™ / SKF ECORUBBER-1

**X-Slide S09-DS**  
Profile

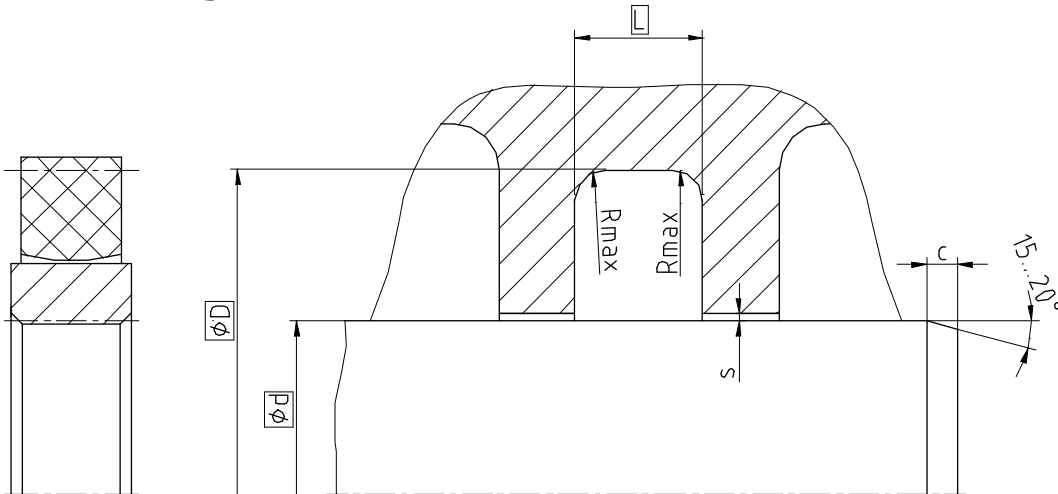
**100 x 120 x 10**  
d x D x L

**X-ECOPUR™ / SKF ECORUBBER-1**  
Sealing material / Energizer



### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					100 bar	200 bar	400 bar	600 bar
> 4 ... ≤ 50	d + 10	5,0	0,2	4,0	0,40	0,30	0,20	0,10
> 50 ... ≤ 60	d + 15	7,5	0,3	5,0	0,50	0,30	0,20	0,10
> 60 ... ≤ 200	d + 20	10,0	0,4	6,0	0,60	0,40	0,25	0,15
> 200 ... ≤ 300	d + 25	12,5	0,4	8,5	0,60	0,40	0,25	0,15
> 300 ... ≤ 530	d + 30	15,0	0,8	10,0	0,70	0,50	0,30	0,20
> 530 ... ≤ 680	d + 35	17,5	1,2	11,5	0,80	0,60	0,50	0,20
> 680 ... ≤ 1500	d + 40	20,0	1,2	13,0	1,00	0,70	0,60	0,30

\* Extrusion gap applies to a temperature of 80 °C, higher temperatures require lower values.

### Operating parameters

Glide ring	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOFLON 2 SKF ECOFLON 3 <b>SKF ECOFLON 3F</b> SKF ECOFLON 4	<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	<b>10 m/s</b>	<b>600 bar (60 MPa)</b>
	SKF ECORUBBER-2	-20 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

F-Slide S09-DS, d=100mm, D=120mm, L=10mm, SKF ECOFLON 3F / SKF ECORUBBER-1

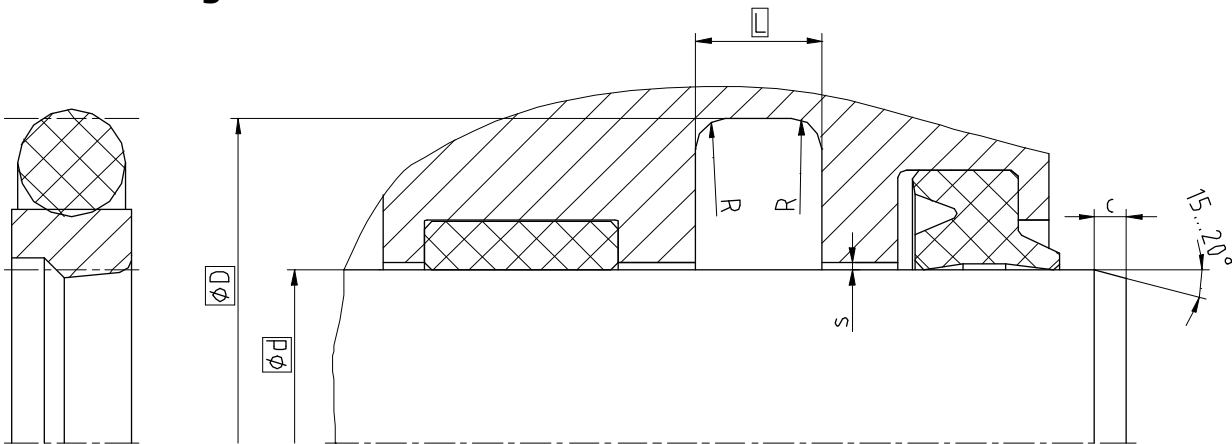
**F-Slide S09-DS**  
Profile

**100 x 120 x 10**  
d x D x L

**SKF ECOFLON 3F / SKF ECORUBBER-1**  
Sealing material / Energizer

## Rod seals

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

Ød f8	ØD H10	L +0,2	R	c	ØOD	max. radial extrusion gap s*		
						100 bar	160 bar	250 bar
> 4 ... ≤ 8	d + 4,9	2,2	0,4	2,5	1,78	0,30	0,25	0,20
> 8 ... ≤ 19	d + 7,3	3,2	0,6	3,5	2,62	0,40	0,30	0,25
> 19 ... ≤ 38	d + 10,7	4,2	1,0	4,5	3,53	0,50	0,35	0,25
> 38 ... ≤ 200	d + 15,1	6,3	1,3	5,0	5,33	0,50	0,40	0,30
> 200 ... ≤ 256	d + 20,5	8,1	1,8	6,0	7,00	0,70	0,50	0,35
> 256 ... ≤ 600	d + 24,0	8,1	1,8	8,0	7,00	0,70	0,50	0,35

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

## Operating parameters

Glide ring	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>NBR70</b>	<b>-30 °C...+100 °C</b>	<b>1 m/s</b>	<b>250 bar (25 MPa)</b>
H-ECOPUR™		-20 °C...+200 °C	1 m/s	
S-ECOPUR™		-20 °C...+200 °C	1,4 m/s	
T-ECOPUR™		-30 °C...+100 °C	1 m/s	
G-ECOPUR™		-30 °C...+100 °C	1 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

## Ordering example

S09-P, d=100mm, D=115,1mm, L=6,3mm, ECOPUR® / NBR70

**Rod Seal S09-P**  
Profile

**100 x 115,1 x 6,3**  
d x D x L

**ECOPUR® / NBR70**  
Sealing material / Energizer

# Seal data sheet

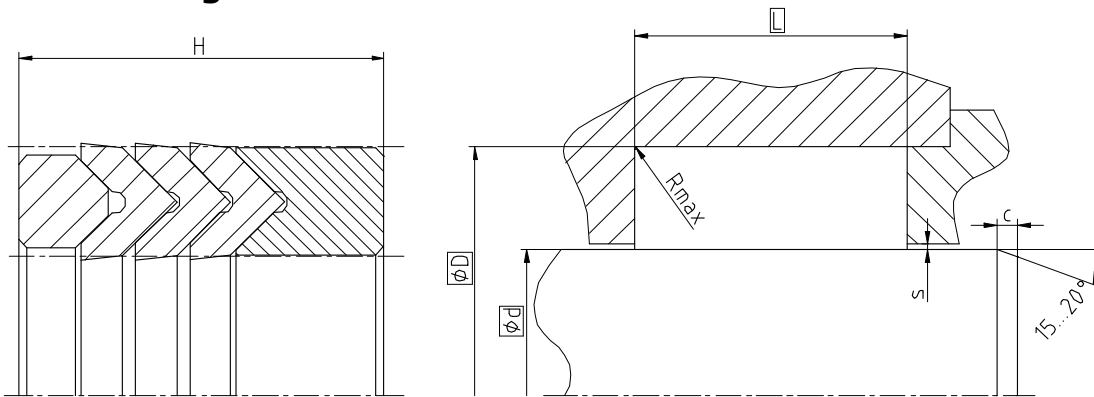
## Rod seals

S1012-M



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	s*
≥ 5 ... < 40	d + 10	16	0,4	4	0,25
≥ 40 ... < 75	d + 15	25		5	0,38
≥ 75 ... < 150	d + 20	32		6	0,50
≥ 150 ... < 200	d + 25	40		8,5	0,63
≥ 200 ... < 300	d + 30	50		10	0,75
≥ 300	d + 40	63		13	1,00

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Pressure ring S10-A	Chevron S11-M	Backup ring S12-M	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOTAL SKF ECOMID <sup>2</sup>	ECOPUR®	SKF ECOTAL SKF ECOMID <sup>2</sup>	-30 °C...+100 °C	0,5 m/s	500 bar (50 MPa)
	H-ECOPUR™		-20 °C...+100 °C	0,5 m/s	
	S-ECOPUR™		-20 °C...+100 °C	0,7 m/s	
	T-ECOPUR™		-40 °C...+100 °C	0,5 m/s	
	G-ECOPUR™		-30 °C...+100 °C	0,5 m/s	
SKF ECOTAL SKF ECOMID <sup>2</sup>	ECOPUR®	X-ECOPUR™	-30 °C...+100 °C	0,5 m/s	500 bar (50 MPa)
	H-ECOPUR™	XH-ECOPUR™	-20 °C...+100 °C	0,5 m/s	
	S-ECOPUR™	XS-ECOPUR™	-20 °C...+100 °C	0,7 m/s	
	G-ECOPUR™	G-ECOPUR 54D™	-30 °C...+100 °C	0,5 m/s	
SKF ECOFLON 2	SKF ECORUBBER-1	SKF ECOFLON 2	-30 °C...+100 °C	0,5 m/s	250 bar (25 MPa)
	SKF ECORUBBER-2		-20 °C...+200 °C	0,5 m/s	
	SKF ECORUBBER-3		-50 °C...+150 °C	0,5 m/s	
	SKF ECORUBBER-H		-25 °C...+150 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

S1012-M, d=100mm, D=120mm, L=32mm, SKF ECOTAL / ECOPUR® / X-ECOPUR

**Rod Seal S1012-M**

Profile

**100 x 120 x 32**

d x D x L

**SKF ECOTAL / ECOPUR® / X-ECOPUR**

Pressure ring / Sealing material / Backup ring

**ECONOMOS**

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# Seal data sheet

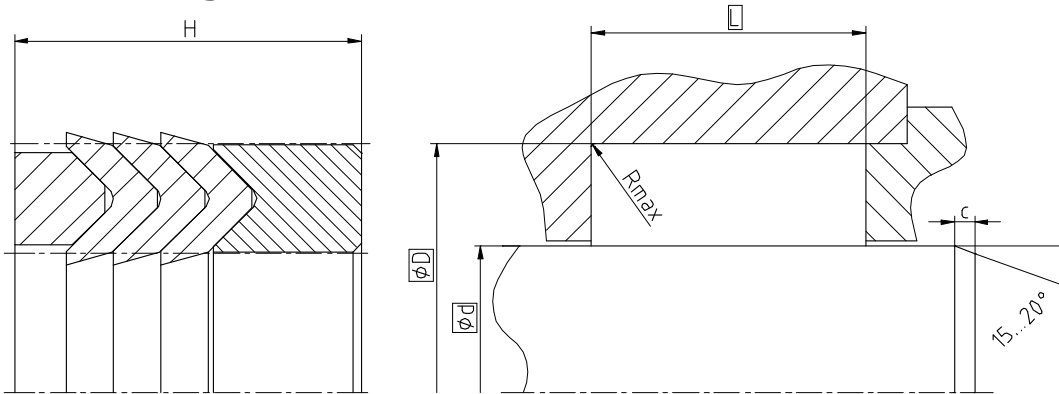
## Rod seals

S1012-T



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 μm	0,1...0,5 μm
Bottom of groove	≤ 6,3 μm	≤ 1,6 μm
Groove face	≤ 15 μm	≤ 3 μm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	s*
≥ 10 ... < 40	d + 10	16	0,4	4	0,25
≥ 40 ... < 75	d + 15	25		5	0,38
≥ 75 ... < 150	d + 20	32		6	0,50
≥ 150 ... < 200	d + 25	40		8,5	0,63
≥ 200 ... < 300	d + 30	50		10	0,75
≥ 300	d + 40	63		13	1,00

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Pressure ring S10-A	Chevron S11-T	Backup ring S12-T	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOTAL SKF ECOMID <sup>2</sup>	ECOPUR®	SKF ECOTAL SKF ECOMID <sup>2</sup>	-30 °C...+100 °C	0,5 m/s	500 bar (50 MPa)
	H-ECOPUR™		-20 °C...+100 °C	0,5 m/s	
	S-ECOPUR™		-20 °C...+100 °C	0,7 m/s	
	T-ECOPUR™		-40 °C...+100 °C	0,5 m/s	
	G-ECOPUR™		-30 °C...+100 °C	0,5 m/s	
SKF ECOTAL SKF ECOMID <sup>2</sup>	ECOPUR®	X-ECOPUR™	-30 °C...+100 °C	0,5 m/s	500 bar (50 MPa)
	H-ECOPUR™	XH-ECOPUR™	-20 °C...+100 °C	0,5 m/s	
	S-ECOPUR™	XS-ECOPUR™	-20 °C...+100 °C	0,7 m/s	
	G-ECOPUR™	G-ECOPUR 54D™	-30 °C...+100 °C	0,5 m/s	
SKF ECOFLON 2	SKF ECORUBBER-1	SKF ECOFLON 2	-30 °C...+100 °C	0,5 m/s	250 bar (25 MPa)
	SKF ECORUBBER-2		-20 °C...+200 °C	0,5 m/s	
	SKF ECORUBBER-3		-50 °C...+150 °C	0,5 m/s	
	SKF ECORUBBER-H		-25 °C...+150 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

S1012-T, d=100mm, D=120mm, L=32mm, SKF ECOTAL / ECOPUR® / X-ECOPUR

**Rod Seal S1012-T 100 x 120 x 32 SKF ECOTAL / ECOPUR® / X-ECOPUR**

Profile

d x D x L

Pressure ring / Sealing material / Backup ring

ECONOMOS

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# Seal data sheet

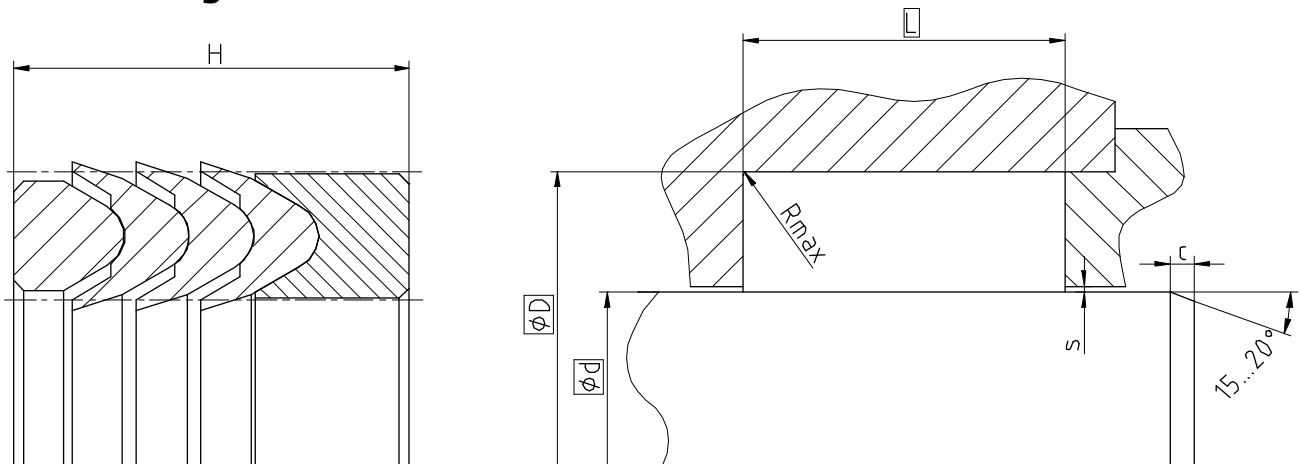
## Rod seals

S1315-T



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 μm	0,1...0,5 μm
Bottom of groove	≤ 6,3 μm	≤ 1,6 μm
Groove face	≤ 15 μm	≤ 3 μm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	s*
≥ 10 ... < 40	d + 10	16	0,4	4	0,25
≥ 40 ... < 75	d + 15	25		5	0,38
≥ 75 ... < 150	d + 20	32		6	0,50
≥ 150 ... < 200	d + 25	40		8,5	0,63
≥ 200 ... < 300	d + 30	50		10	0,75
≥ 300	d + 40	63		13	1,00

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Pressure ring S13-A	Chevron S14-T	Backup ring S15-T	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOTAL SKF ECOMID <sup>2</sup>	ECOPUR <sup>®</sup>	SKF ECOTAL SKF ECOMID <sup>2</sup>	-30 °C...+100 °C	0,5 m/s	600 bar (60 MPa)
	H-ECOPUR <sup>™</sup>		-20 °C...+100 °C	0,5 m/s	
	S-ECOPUR <sup>™</sup>		-20 °C...+100 °C	0,7 m/s	
	T-ECOPUR <sup>™</sup>		-40 °C...+100 °C	0,5 m/s	
	G-ECOPUR <sup>™</sup>		-30 °C...+100 °C	0,5 m/s	
SKF ECOTAL SKF ECOMID <sup>2</sup>	ECOPUR <sup>®</sup>	X-ECOPUR <sup>™</sup>	-30 °C...+100 °C	0,5 m/s	600 bar (60 MPa)
	H-ECOPUR <sup>™</sup>	XH-ECOPUR <sup>™</sup>	-20 °C...+100 °C	0,5 m/s	
	S-ECOPUR <sup>™</sup>	XS-ECOPUR <sup>™</sup>	-20 °C...+100 °C	0,7 m/s	
	G-ECOPUR <sup>™</sup>	G-ECOPUR 54D <sup>™</sup>	-30 °C...+100 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

S1315-T, d=100mm, D=120mm, L=32mm, SKF ECOTAL / ECOPUR<sup>®</sup> / X-ECOPUR

**Rod Seal S1315-T 100 x 120 x 32 SKF ECOTAL / ECOPUR<sup>®</sup> / X-ECOPUR**

Profile

d x D x L

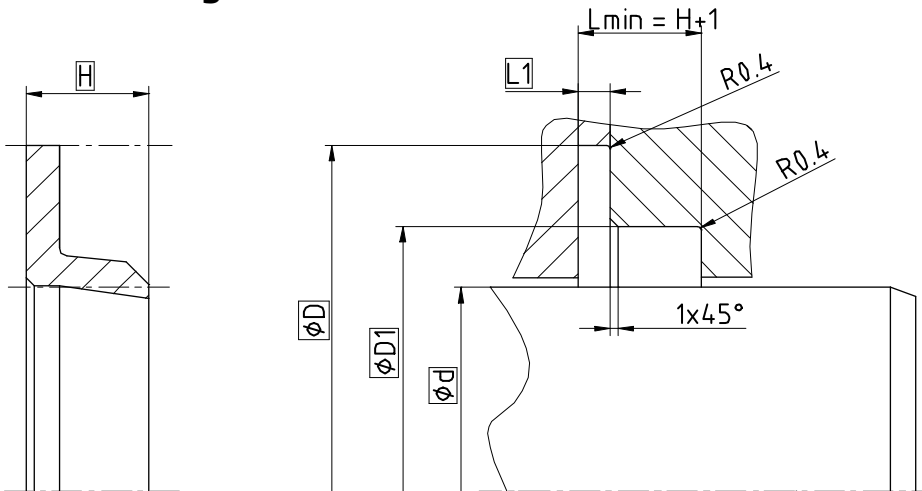
Pressure ring / Sealing material / Backup ring

ECONOMOS

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### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

minimum nominal inside diameter  $\varnothing d \geq 6\text{mm}$

This is not a standard profile and serves as a replacement for an existing installation space. New constructions should use standard profiles.

### Operating parameters

Sealing material	Temperature	max. speed		max. pressure	
		linear	rotary	linear <sup>1</sup>	rotary
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>0,5 m/s</b>	<b>2 m/s</b>	<b>160 bar (16 MPa)</b>	<b>7 bar (0,7 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C				
S-ECOPUR™	-20 °C...+110 °C				
T-ECOPUR™	-50 °C...+110 °C				
G-ECOPUR™	-30 °C...+110 °C	0,5 m/s			
SKF ECORUBBER-1	-30 °C...+100 °C	0,5 m/s	5 m/s	160 bar (16 MPa)	5 bar (0,5 MPa)
SKF ECORUBBER-2	-20 °C...+200 °C				
SKF ECORUBBER-3	-50 °C...+150 °C				
SKF ECORUBBER-H	-25 °C...+150 °C				
SKF ECOFLAS	-10 °C...+200 °C				

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

S16-A, d=100mm, D=150mm, D1=120mm, L1=5mm, H=25mm, ECOPUR®

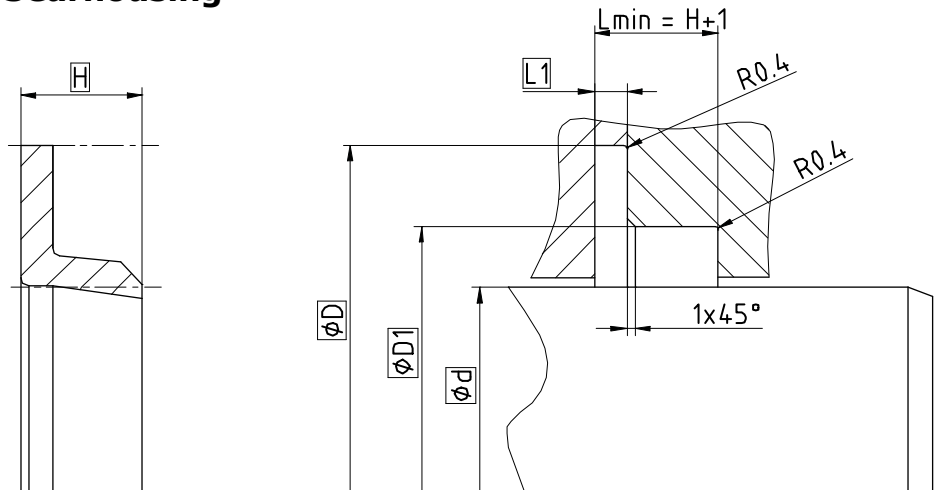
**Rod Seal S16-A**  
Profile

**100 x 150/120 x 5/25**  
d x D/D1 x L1/H

**ECOPUR®**  
Sealing material

## Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

minimum nominal inside diameter  $\varnothing d \geq 11\text{mm}$

This is not a standard profile and serves as a replacement for an existing installation space. New constructions should use standard profiles.

### Operating parameters

Sealing material	Temperature	max. speed		max. pressure	
		linear	rotary	linear <sup>1</sup>	rotary
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>0,5 m/s</b>	<b>2 m/s</b>	<b>160 bar (16 MPa)</b>	<b>7 bar (0,7 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C				
S-ECOPUR™	-20 °C...+110 °C				
T-ECOPUR™	-50 °C...+110 °C				
G-ECOPUR™	-30 °C...+110 °C	0,5 m/s			
SKF ECORUBBER-1	-30 °C...+100 °C	0,5 m/s	5 m/s	160 bar (16 MPa)	5 bar (0,5 MPa)
SKF ECORUBBER-2	-20 °C...+200 °C				
SKF ECORUBBER-3	-50 °C...+150 °C				
SKF ECORUBBER-H	-25 °C...+150 °C				
SKF ECOFLAS	-10 °C...+200 °C				

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

S16-B, d=100mm, D=150mm, D1=120mm, L1=5mm, H=25mm, ECOPUR®

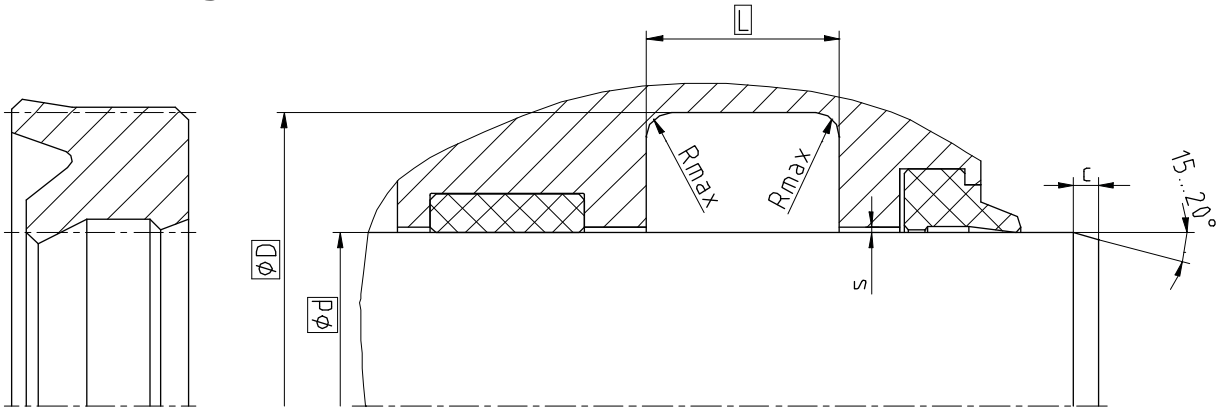
**Rod Seal S16-B**  
Profile

**100 x 150/120 x 5/25**  
d x D/D1 x L1/H

**ECOPUR®**  
Sealing material

### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 6 ... ≤ 25	d + 8	6,3	0,4	3,5	0,33	0,17	0,11	0,05
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	0,37	0,22	0,16	0,10
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	0,46	0,31	0,25	0,19
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	0,54	0,39	0,32	0,26
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	0,61	0,46	0,39	0,33
> 500 ... ≤ 600	d + 30	25,0	0,4	10,0	0,67	0,52	0,45	0,39

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>0,5 m/s</b>	<b>400 bar (40 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C	0,5 m/s	
S-ECOPUR™	-20 °C...+110 °C	0,7 m/s	
T-ECOPUR™	-50 °C...+110 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

S17-P, d=100mm, D=115mm, L=10mm, ECOPUR®

**Rod Seal S17-P**  
Profile

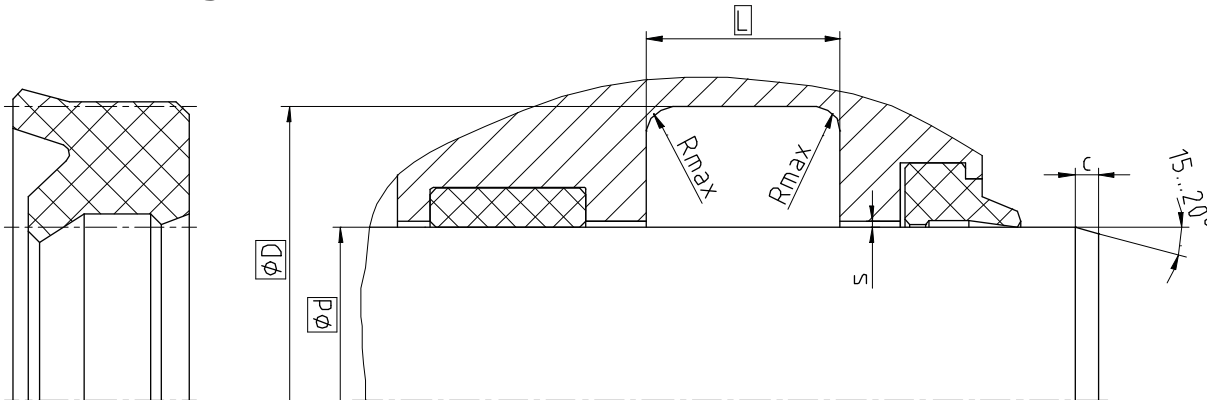
**100 x 115 x 10**  
d x D x L

**ECOPUR®**  
Sealing material



## Rod seals

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*		
					20 bar	100 bar	160 bar
≥ 6 ... ≤ 25	d + 8	6,3	0,4	3,5	0,23	0,16	0,14
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	0,26	0,19	0,17
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	0,31	0,24	0,22
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	0,34	0,27	0,25
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	0,37	0,30	0,29
> 500 ... ≤ 600	d + 30	25,0	0,4	10,0	0,40	0,34	0,32

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

## Operating parameters

Sealing material	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>160 bar (16 MPa)</b>
SKF ECORUBBER-2	-20 °C...+200 °C		
SKF ECORUBBER-3	-50 °C...+150 °C		
SKF ECORUBBER-H	-25 °C...+150 °C		
SKF ECOFLAS	-10 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

## Ordering example

S17-R, d=100mm, D=115mm, L=10mm, SKF ECORUBBER-1

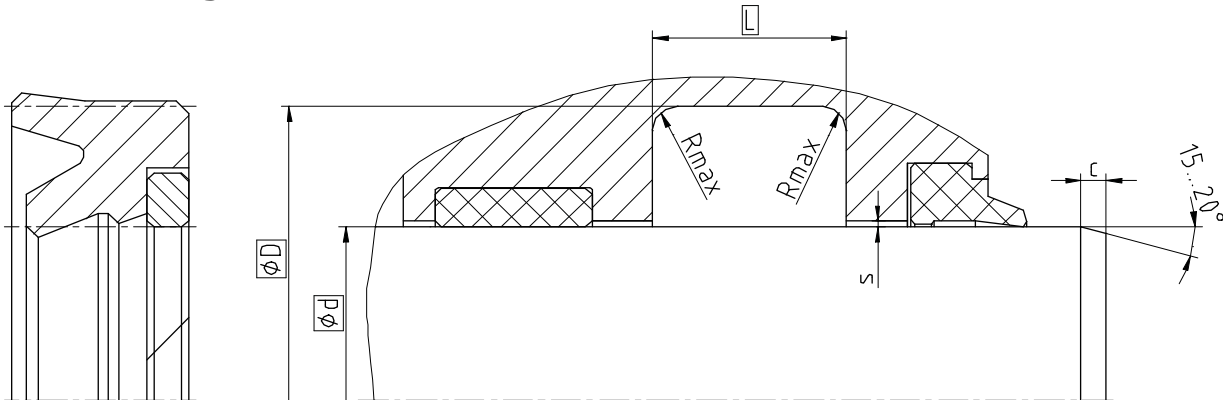
**Rod Seal S17-R**  
Profile

**100 x 115 x 10**  
d x D x L

**SKF ECORUBBER-1**  
Sealing material

## Rod seals

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 μm	0,1...0,5 μm
Bottom of groove	≤ 6,3 μm	≤ 1,6 μm
Groove face	≤ 15 μm	≤ 3 μm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	400 bar	600 bar
≥ 23 ... ≤ 25	d + 8	8,0	0,4	3,5	0,80	0,80	0,30	0,11
> 25 ... ≤ 50	d + 10	9,0	0,4	4,0	1,00	1,00	0,37	0,14
> 50 ... ≤ 150	d + 15	14,0	0,4	5,0	1,50	1,47	0,46	0,17
> 150 ... ≤ 300	d + 20	17,0	0,4	6,0	2,00	1,77	0,54	0,18
> 300 ... ≤ 500	d + 25	20,0	0,4	8,5	2,50	2,06	0,62	0,20
> 500 ... ≤ 600	d + 30	25,0	0,4	10,0	3,00	2,43	0,76	0,25

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

## Operating parameters

Sealing material	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>600 bar (60 MPa)</b>
H-ECOPUR™		-20 °C...+100 °C	0,5 m/s	
S-ECOPUR™		-20 °C...+100 °C	0,7 m/s	
T-ECOPUR™		-40 °C...+100 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

## Ordering example

S18-P, d=100mm, D=115mm, L=10mm, ECOPUR® / SKF ECOTAL

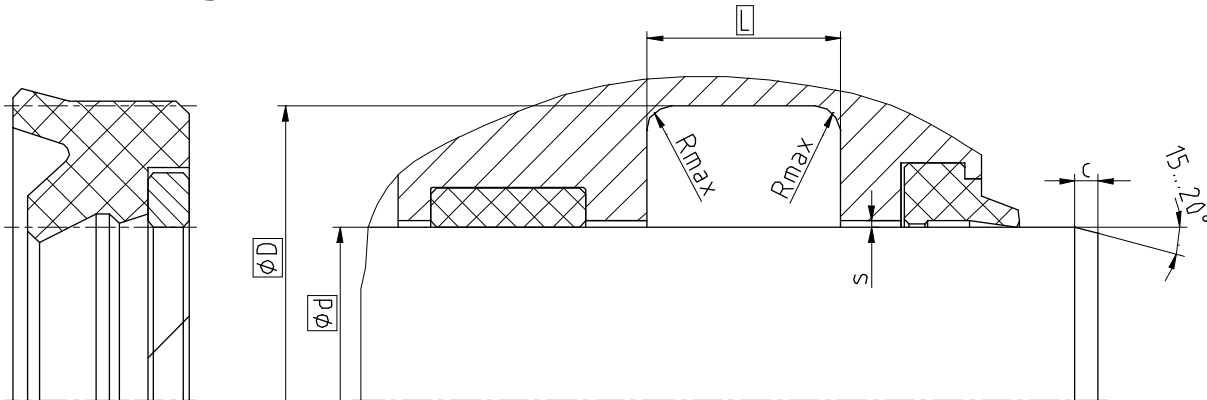
**Rod Seal S18-P**  
Profile

**100 x 115 x 10**  
d x D x L

**ECOPUR® / SKF ECOTAL**  
Sealing material / Backup ring

## Rod seals

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*		
					20 bar	100 bar	250 bar
≥ 23 ... ≤ 25	d + 8	8,0	0,4	3,5	0,60	0,80	0,52
> 25 ... ≤ 50	d + 10	9,0	0,4	4,0	1,00	1,00	0,66
> 50 ... ≤ 150	d + 15	14,0	0,4	5,0	1,50	1,40	0,78
> 150 ... ≤ 300	d + 20	17,0	0,4	6,0	2,00	1,66	0,88
> 300 ... ≤ 500	d + 25	20,0	0,4	8,5	2,50	1,91	1,00
> 500 ... ≤ 600	d + 30	25,0	0,4	10,0	3,00	2,18	1,13

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

## Operating parameters

Sealing material	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECORUBBER-1</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>250 bar (25 MPa)</b>
		-30 °C...+100 °C		
SKF ECORUBBER-2	SKF ECOFLON 2	-20 °C...+200 °C		
SKF ECORUBBER-3	SKF ECOTAL SKF ECOMID <sup>2</sup>	-50 °C...+100 °C		
		-40 °C...+100 °C		
	SKF ECOFLON 2	-50 °C...+150 °C		
SKF ECORUBBER-H	SKF ECOTAL SKF ECOMID <sup>2</sup>	-25 °C...+100 °C		
		-25 °C...+100 °C		
	SKF ECOFLON 2	-25 °C...+150 °C		
SKF ECOFLAS	SKF ECOFLON 2	-10 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

## Ordering example

S18-R, d=100mm, D=115mm, L=10mm, SKF ECORUBBER-1 / SKF ECOTAL

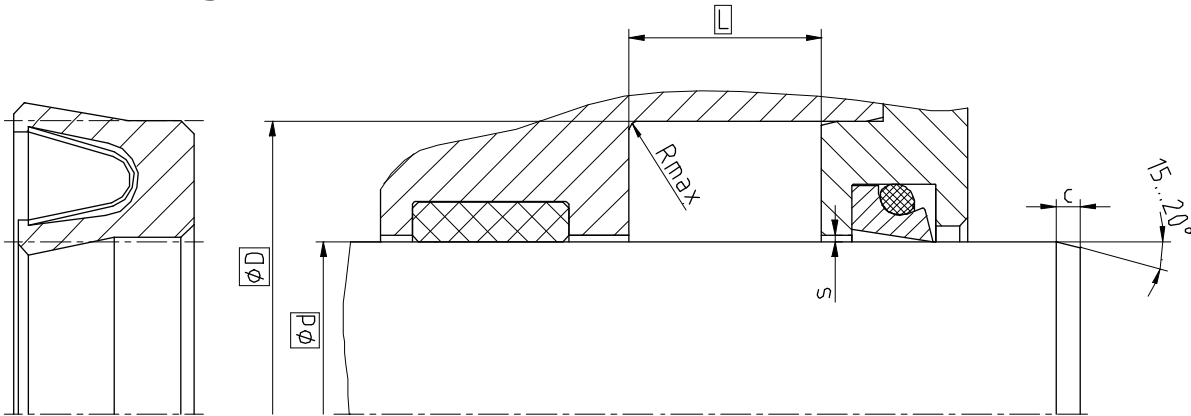
**Rod Seal S18-R**  
Profile

**100 x 115 x 10**  
d x D x L

**SKF ECORUBBER-1 / SKF ECOTAL**  
Sealing material / Backup ring

## Rod seals

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*				
					20 bar	100 bar	200 bar	300 bar	400 bar
≥ 5 ... ≤ 18	d + 4,5	3,6	0,4	2,0	0,25	0,12	0,10	0,08	0,07
> 18 ... ≤ 50	d + 6,2	4,8	0,4	3,0	0,35	0,17	0,12	0,10	0,08
> 50 ... ≤ 120	d + 9,4	7,1	0,4	4,0	0,45	0,22	0,17	0,12	0,10
> 120 ... ≤ 630	d + 12,2	9,5	0,4	5,0	0,60	0,31	0,25	0,15	0,12
> 630 ... ≤ 1600	d + 19,0	15,0	0,4	6,0	0,87	0,48	0,38	0,28	0,20

\* Extrusion gap applies to a temperature of 80 °C, higher temperatures require lower values.

## Operating parameters

Sealing material	Spring	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOFLON 1	<b>1.4310</b>	<b>-200 °C...+260 °C</b>	<b>15 m/s</b>	200 bar (20 MPa)
SKF ECOFLON 2				<b>400 bar (40 MPa)</b>
<b>SKF ECOFLON 3</b>				
SKF ECOFLON 4				
SKF ECOWEAR 1000		<b>-200 °C...+80 °C</b>		200 bar (20 MPa)

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

## Ordering example

S19-F, d=100mm, D=109,4mm, L=7,1mm, SKF ECOFLON 3 / 1.4310

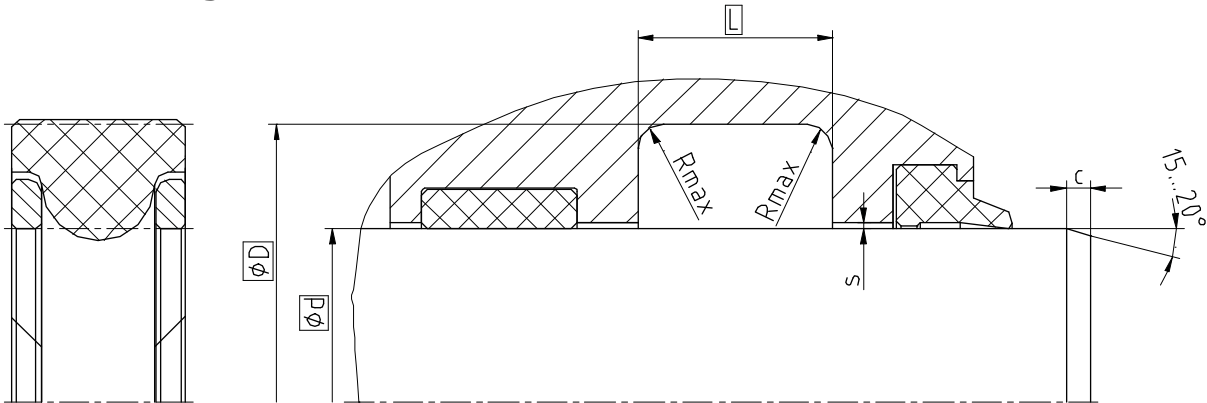
**Rod Seal S19-F**  
Profile

**100 x 109,4 x 7,1**  
d x D x L

**SKF ECOFLON 3 / 1.4310**  
Sealing material / Spring

## Rod seals

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

Ød f8		ØD H10	L +0,25	Rmax	c	s*
static	dynamic					
≥ 11 ... < 100	-	d + 4,36	4,5	0,4	2,0	f8/H8
≥ 100 ... < 150	≥ 11 ... < 20	d + 4,36	6,5	0,4	2,0	
≥ 150 ... < 250	≥ 20 ... < 40	d + 6,00	7,4	0,4	3,0	
≥ 250 ... < 400	≥ 40 ... < 100	d + 9,06	10,1	0,4	3,5	
≥ 400 ... < 600	≥ 100 ... < 300	d + 11,88	12,8	0,4	4,5	
≥ 600	≥ 300 ... ≤ 600	d + 17	17,5	0,4	4,5	

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

## Operating parameters

Sealing material	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECORUBBER-1</b>	<b>SKF ECOTAL</b>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>700 bar (70 Mpa)</b>
SKF ECORUBBER-H	SKF ECOMID <sup>2</sup>	-25 °C...+100 °C		
SKF ECORUBBER-2	SKF ECOPA EK	-20 °C...+200 °C		
SKF ECORUBBER-H	SKF ECOFLON 2	-25 °C...+150 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

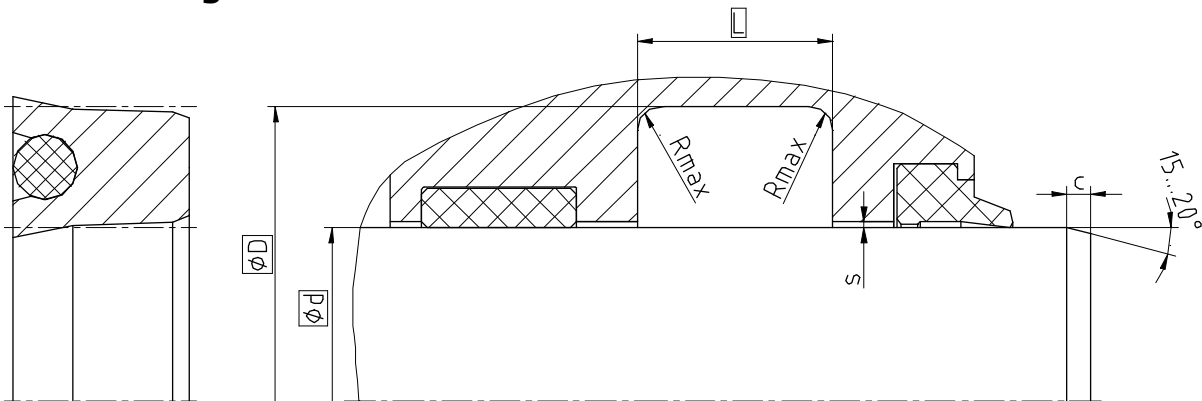
## Ordering example

S20-R, d=100mm, D=115mm, L=10mm, SKF ECORUBBER-1 / SKF ECOTAL

**Rod Seal S20-R 100 x 115 x 10 SKF ECORUBBER-1 / SKF ECOTAL**  
 Profile                      d x D x L                      Sealing material / Backup ring

### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	$\leq 2,5 \mu\text{m}$	0,1...0,5 $\mu\text{m}$
Bottom of groove	$\leq 6,3 \mu\text{m}$	$\leq 1,6 \mu\text{m}$
Groove face	$\leq 15 \mu\text{m}$	$\leq 3 \mu\text{m}$

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

$\varnothing d$ f8	$\varnothing D$ H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
$\geq 5 \dots \leq 25$	d + 8	6,3	0,4	3,5	0,33	0,17	0,11	0,05
$> 25 \dots \leq 50$	d + 10	8,0	0,4	4,0	0,37	0,22	0,16	0,10
$> 50 \dots \leq 150$	d + 15	10,0	0,4	5,0	0,46	0,31	0,25	0,19
$> 150 \dots \leq 300$	d + 20	14,0	0,4	6,0	0,54	0,39	0,32	0,26
$> 300 \dots \leq 500$	d + 25	17,0	0,4	8,5	0,61	0,46	0,39	0,33
$> 500 \dots \leq 600$	d + 30	25,0	0,4	10,0	0,67	0,52	0,45	0,39

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>NBR 70</b>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>400 bar (40 Mpa)</b>
H-ECOPUR™		-20 °C...+100 °C	0,5 m/s	
S-ECOPUR™		-25 °C...+150 °C	0,7 m/s	
T-ECOPUR™	<b>MVQ70</b>	<b>-50 °C...+110 °C</b>	<b>0,5 m/s</b>	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

S21-P, d=100mm, D=115mm, L=10mm, ECOPUR® / NBR70

**Rod Seal S21-P**  
Profile

**100 x 115 x 10**  
d x D x L

**ECOPUR® / NBR70**  
Sealing material / Energizer

# Seal data sheet

S22-P



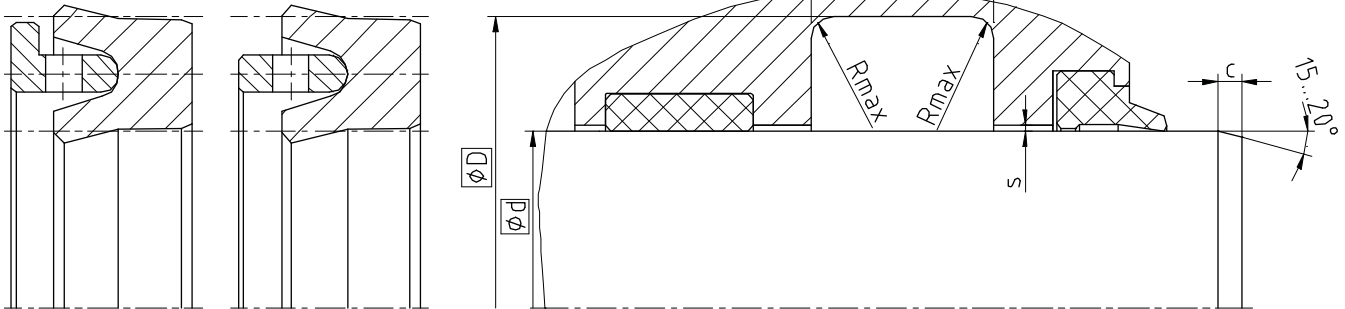
2008-09

## Rod seals

### Seal housing

Type 1

Type 2



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 6 ... ≤ 25	d + 8	6,3	0,4	3,5	0,33	0,17	0,11	0,05
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	0,37	0,22	0,16	0,10
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	0,46	0,31	0,25	0,19
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	0,54	0,39	0,32	0,26
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	0,61	0,46	0,39	0,33
> 500 ... ≤ 600	d + 30	25,0	0,4	10,0	0,67	0,52	0,45	0,39

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values. Standard: Type 2

### Operating parameters

Sealing material	Support ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>400 bar (40 Mpa)</b>
H-ECOPUR™		-20 °C...+100 °C		
T-ECOPUR™		-40 °C...+100 °C		
S-ECOPUR™		-20 °C...+100 °C	0,7 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

S22-P, d=100mm, D=115mm, L=10mm, ECOPUR® / SKF ECOTAL

**Rod Seal S22-P**  
Profile

**100 x 115 x 10**  
d x D x L

**ECOPUR® / SKF ECOTAL**  
Sealing material / Support ring

# Seal data sheet

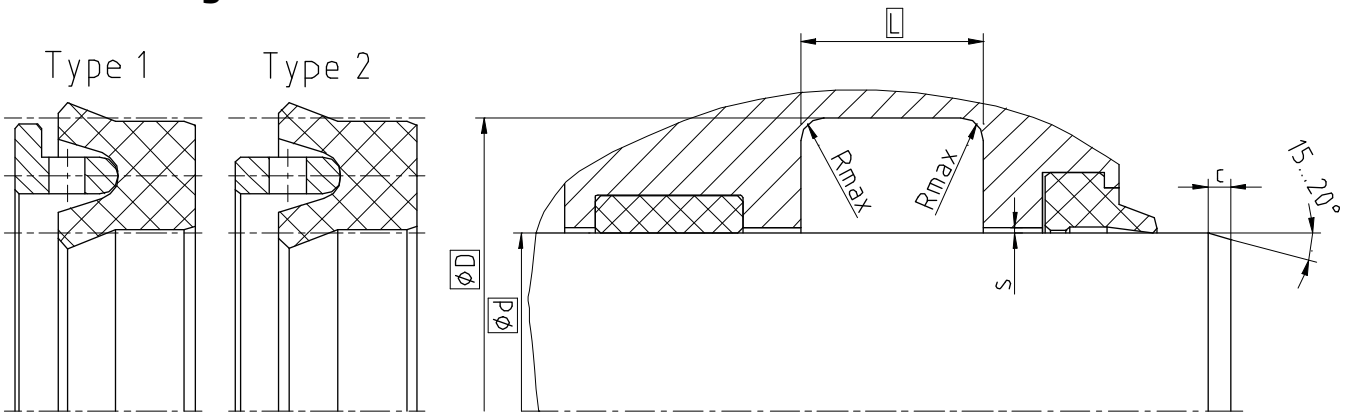
S22-R



2008-09

## Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*		
					20 bar	100 bar	160 bar
≥ 6 ... ≤ 25	d + 8	6,3	0,4	3,5	0,23	0,16	0,14
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	0,26	0,19	0,17
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	0,31	0,24	0,22
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	0,34	0,27	0,25
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	0,37	0,30	0,29
> 500 ... ≤ 600	d + 30	25,0	0,4	10,0	0,40	0,34	0,32

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values. Standard: Type 2

### Operating parameters

Sealing material	Support ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECORUBBER-1</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>160 bar (16 Mpa)</b>
SKF ECORUBBER-2	SKF ECOFLON 2	-20 °C...+100 °C		
SKF ECORUBBER-3	SKF ECOTAL SKF ECOMID <sup>2</sup>	-40 °C...+100 °C		
	SKF ECOFLON 2	-50 °C...+150 °C		
SKF ECORUBBER-H	SKF ECOTAL SKF ECOMID <sup>2</sup>	-25 °C...+100 °C		
	SKF ECOFLON 2	-25 °C...+150 °C		
SKF ECOFLAS		-10 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

S22-R, d=100mm, D=115mm, L=10mm, SKF ECORUBBER-1 / SKF ECOTAL

**Rod Seal S22-R**

Profile

**100 x 115 x 10**

d x D x L

**SKF ECORUBBER-1 / SKF ECOTAL**

Sealing material / Support ring

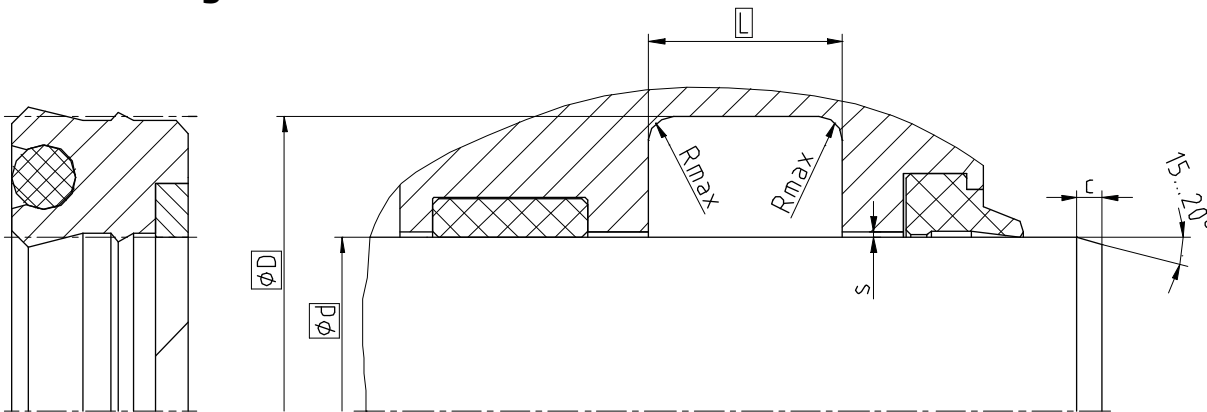
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### Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	400 bar	700 bar
≥ 22 ... ≤ 25	d + 8	6,3	0,4	3,5	0,80	0,80	0,30	0,04
> 25 ... ≤ 50	d + 10	8,0	0,4	4,0	1,00	1,00	0,37	0,04
> 50 ... ≤ 150	d + 15	10,0	0,4	5,0	1,50	1,47	0,46	0,05
> 150 ... ≤ 300	d + 20	14,0	0,4	6,0	2,00	1,77	0,54	0,06
> 300 ... ≤ 500	d + 25	17,0	0,4	8,5	2,50	2,06	0,62	0,06
> 500 ... ≤ 600	d + 30	25,0	0,4	10,0	3,00	2,43	0,76	0,06

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
ECOPUR®	NBR70	SKF ECOTAL SKF ECOMID <sup>2</sup>	-30 °C...+100 °C	0,5 m/s	700 bar (70 MPa)
H-ECOPUR™			-20 °C...+100 °C	0,5 m/s	
S-ECOPUR™			-20 °C...+100 °C	0,7 m/s	
T-ECOPUR™			-30 °C...+100 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

S24-P, d=100mm, D=115mm, L=10mm, H-ECOPUR® / NBR70 / SKF ECOTAL

**Rod Seal S24-P 100 x 115 x 10 H-ECOPUR® / NBR70 / SKF ECOTAL**  
Profile d x D x L Sealing material / Energizer / Backup ring

# Seal data sheet

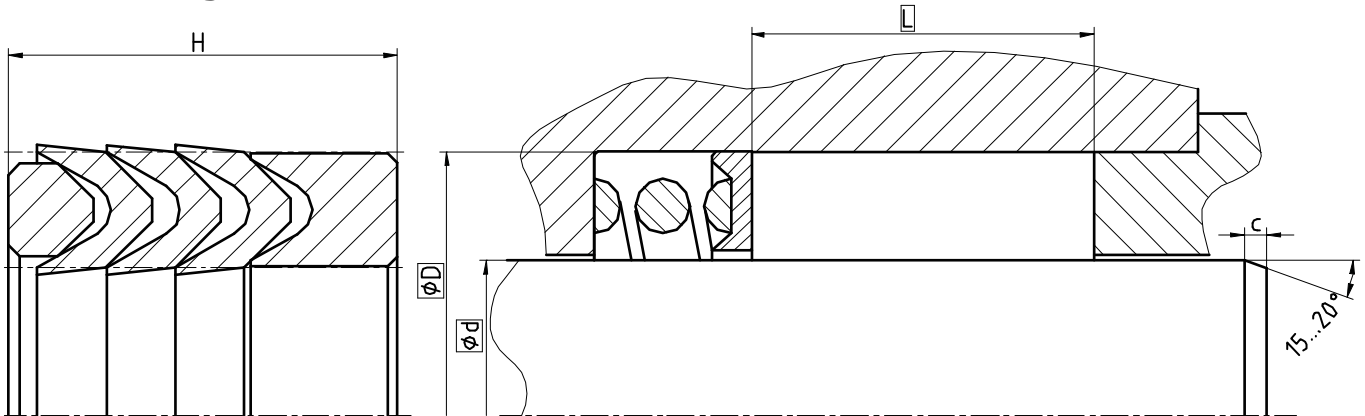
## Rod seals

S2527-F



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H8	c	Installation height L*		
			2 Chevrons < 16 bar	3 Chevrons ≥ 16 bar ... ≤ 50 bar	4 Chevrons ≥ 50 bar ... ≤ 100 bar
≥ 10 ... < 16	d + 8	3,5	12	15	18
≥ 16 ... < 40	d + 10	4,0	14	19	23
≥ 40 ... < 50	d + 12	4,5	16	22	26
≥ 50 ... < 75	d + 15	5	19	27	33
≥ 75 ... < 150	d + 20	6	25	35	42
≥ 150 ... < 200	d + 25	8,5	32	44	53
≥ 200 ... < 300	d + 30	10	39	54	64
≥ 300	d + 40	13	45	64	76

\* The recommended chevron height depends on the pressure area and is valid for SKF ECOFLON 1. Installation height L = Chevron set height H! Standard: 3 Chevrons

### Operating parameters

Pressure ring S25-F	Chevron S26-F	Backup ring S27-F	Temperature	max. speed	max. pressure
<b>SKF ECOFLON 2</b>	<b>SKF ECOFLON 1</b>	<b>SKF ECOFLON 2</b>	<b>-200 °C...+260 °C</b>	<b>1,5 m/s</b>	<b>100 bar (10 MPa)</b>

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

S2527-F, d=100mm, D=120mm, L=35mm, SKF ECOFLON 2 / SKF ECOFLON 1 / SKF ECOFLON 2

**Rod Seal S2527-F 100 x 120 x 35 SKF ECOFLON 2 / SKF ECOFLON 1 / SKF ECOFLON 2**  
Profile d x D x L Pressure ring / Chevron / Backup ring

# Seal data sheet

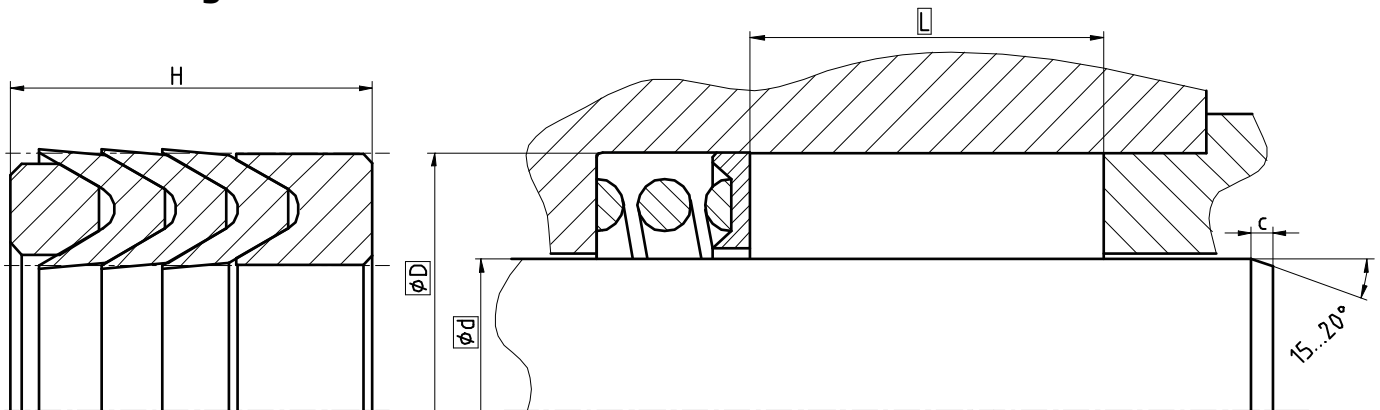
## Rod seals

S2931-F



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H8	c	Installation height L*		
			3 Chevrons < 50 bar	4 Chevrons ≥ 50 bar ... ≤ 100 bar	5 Chevrons ≥ 100 bar ... ≤ 315 bar
≥ 10 ... < 15	d + 8	3,5	14	17	20
≥ 15 ... < 40	d + 10	4,0	16	19	22
≥ 40 ... < 50	d + 12	4,5	19	23	27
≥ 50 ... < 75	d + 15	5	22	26,5	32
≥ 75 ... < 150	d + 20	6	32	38	44
≥ 150 ... < 200	d + 25	8,5	35	42	50
≥ 200 ... < 300	d + 30	10	39	47	56
≥ 300 ... < 600	d + 40	13	50	62	74

\* The recommended chevron height depends on the pressure area and is valid for SKF ECOFLON 1. Installation height L = Chevron set height H! Standard: 3 Chevrons

### Operating parameters

Pressure ring S29-F	Chevron S30-F	Backup ring S31-F	Temperature	max. speed	max. pressure
<b>SKF ECOFLON 2</b>	<b>SKF ECOFLON 1</b>	<b>SKF ECOFLON 2</b>	<b>-200 °C...+260 °C</b>	<b>1,5 m/s</b>	<b>315 bar (31,5 MPa)</b>

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

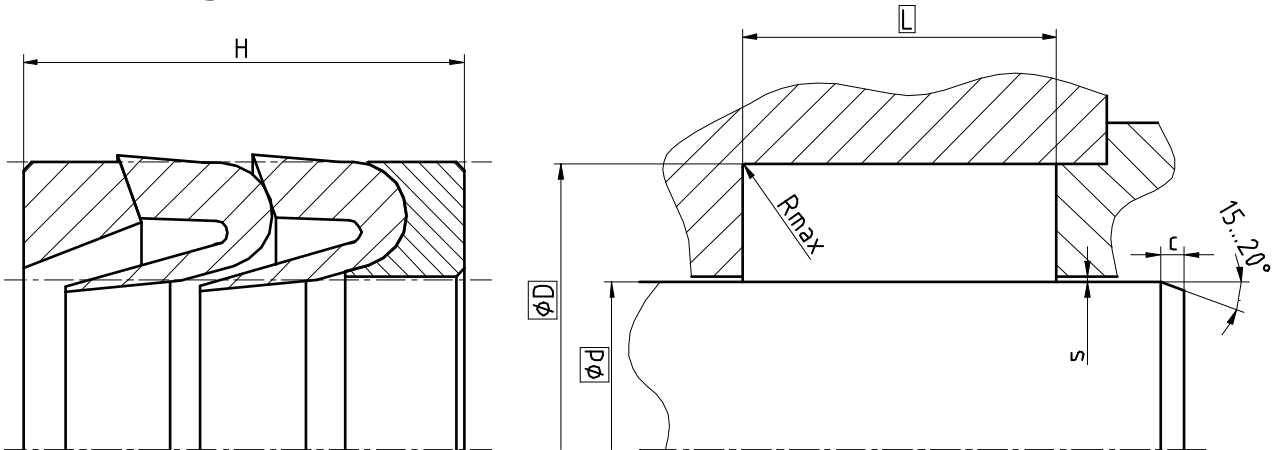
S2931-F, d=100mm, D=120mm, L=10mm, SKF ECOFLON 2 / SKF ECOFLON 1 / SKF ECOFLON 2

**Rod Seal S2931-F**  
Profile

**100 x 120 x 10**  
d x D x L

**SKF ECOFLON 2 / SKF ECOFLON 1 / SKF ECOFLON 2**  
Pressure ring / Chevron / Backup ring

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	s*
- ... < 25	d + 12	24	0,4	4,5	0,6
≥ 25 ... < 47	d + 15	29	0,4	5	0,38
≥ 47 ... < 100	d + 20	38	0,4	6	0,50
≥ 100 ... < 150	d + 25	47,5	0,4	8,5	0,63
≥ 150 ... < 250	d + 30 / 35	57	0,4	10	0,75 / 0,88
> 250 ... < 500	d + 40 / 45	76	0,4	13	1,00 / 1,13
> 500 ... < 1000	d + 50	95	0,4	16	1,25
> 1000 ... < 2500	d + 60	113	0,4	19	1,50

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Pressure ring	Chevron	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOTAL SKF ECOMID <sup>2</sup>	ECOPUR <sup>®</sup>	SKF ECOTAL SKF ECOMID <sup>2</sup>	-30 °C...+100 °C	0,5 m/s	500 bar (50 Mpa)
	H-ECOPUR <sup>™</sup>		-20 °C...+100 °C		
	S-ECOPUR <sup>™</sup>		-20 °C...+100 °C	0,7 m/s	
	T-ECOPUR <sup>™</sup>		-40 °C...+100 °C		
	G-ECOPUR <sup>™</sup>		-30 °C...+100 °C	0,5 m/s	
SKF ECOTAL SKF ECOMID <sup>2</sup>	ECOPUR <sup>®</sup>	X-ECOPUR <sup>™</sup>	-30 °C...+100 °C	0,5 m/s	500 bar (50 Mpa)
	H-ECOPUR <sup>™</sup>	XH-ECOPUR <sup>™</sup>	-20 °C...+100 °C		
	S-ECOPUR <sup>™</sup>	XS-ECOPUR <sup>™</sup>	-20 °C...+100 °C	0,7 m/s	
	G-ECOPUR <sup>™</sup>	G-ECOPUR 54D <sup>™</sup>	-30 °C...+100 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

S32-P, d=100mm, D=125mm, L=10mm, SKF ECOTAL / ECOPUR<sup>®</sup> / X-ECOPUR

**Rod Seal S32-P 100 x 125 x 10 SKF ECOTAL / ECOPUR<sup>®</sup> / X-ECOPUR**

Profile

d x D x L

Pressure ring / Chevron / Backup ring

# Seal data sheet

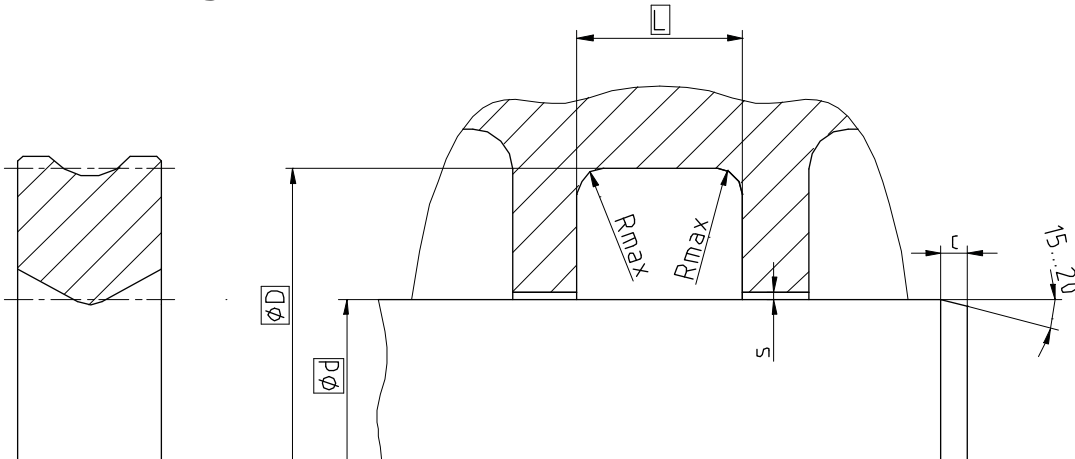
S35-P



2008-09

## Rod seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 5 ... ≤ 10	d + 5	4,0	0,4	2,0	0,33	0,18	0,10	0,05
> 10 ... ≤ 25	d + 6	4,5	0,4	3,0	0,33	0,18	0,10	0,05
> 25 ... ≤ 50	d + 8	5,5	0,4	3,5	0,33	0,18	0,10	0,05
> 50 ... ≤ 100	d + 10	6,5	0,4	4,0	0,37	0,23	0,15	0,10
> 100 ... ≤ 150	d + 15	9,5	0,4	5,0	0,46	0,33	0,25	0,18
> 150 ... ≤ 300	d + 20	12,5	0,4	6,0	0,54	0,38	0,33	0,25
> 300 ... ≤ 500	d + 25	15,0	0,4	8,5	0,61	0,45	0,40	0,33
> 500 ... ≤ 700	d + 30	17,5	0,4	10,0	0,67	0,50	0,45	0,40
> 700 ... ≤ 1250	d + 40	22,0	0,4	13,0	0,77	0,50	0,45	0,40
> 1250 ... ≤ 2000	d + 50	27,0	0,4	15,0	0,87	0,60	0,50	0,40
> 2000 ... ≤ 4000	d + 60	32,0	0,4	18,0	0,97	0,70	0,50	0,40

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Temperature	max. speed <sup>2</sup>	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>0,4 m/s</b>	<b>400 bar (40 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C	0,4 m/s	
S-ECOPUR™	-20 °C...+110 °C	0,5 m/s	
T-ECOPUR™	-50 °C...+110 °C	0,4 m/s	
G-ECOPUR™	-30 °C...+110 °C	0,4 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> Rotary applications max. 0,2 m/s

### Ordering example

S35-P, d=120mm, D=135mm, L=9,5mm, ECOPUR®

**Rod Seal S35-P**

Profile

**120 x 135 x 9,5**

d x D x L

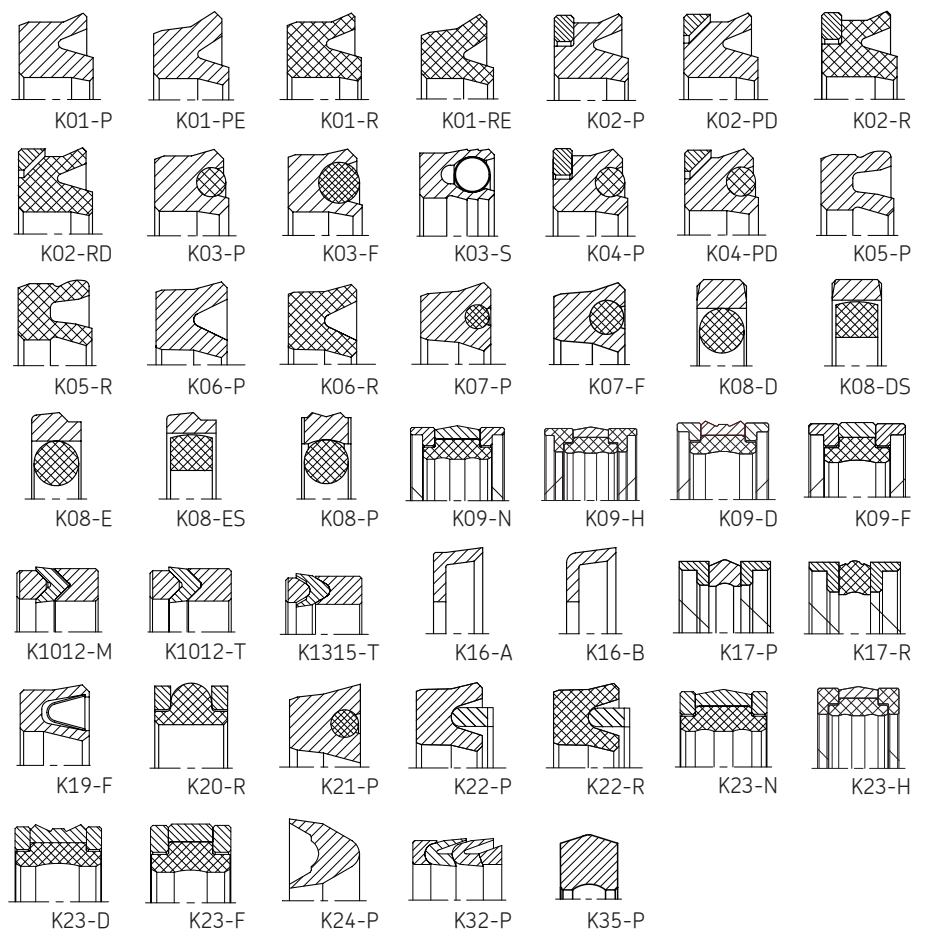
**ECOPUR®**

Sealing material

**ECONOMOS**

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# Piston Seals



# Seal data sheet

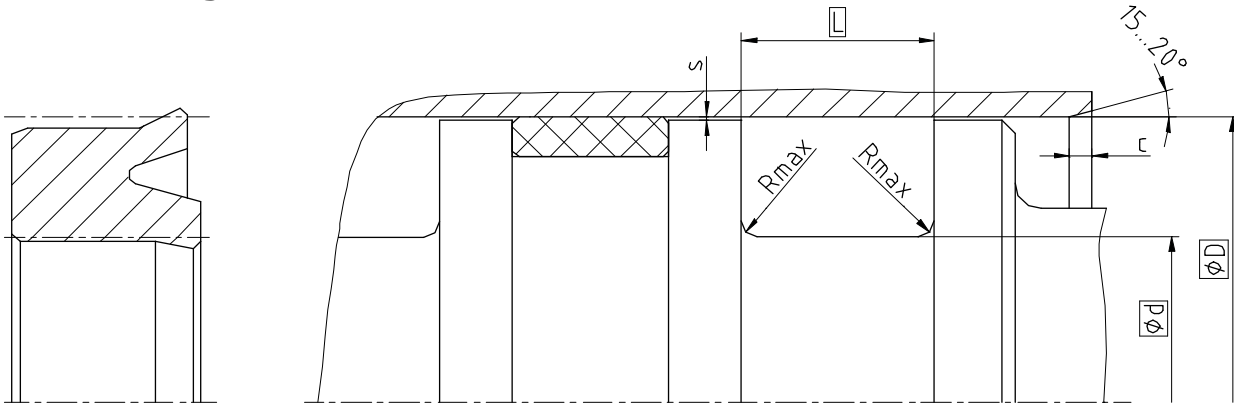
K01-P



2008-09

## Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 13 ... ≤ 25	D - 8	6,0	0,4	3,5	0,33	0,18	0,11	0,05
> 25 ... ≤ 50	D - 10	7,0	0,4	4,0	0,37	0,22	0,16	0,10
> 50 ... ≤ 75	D - 12	8,0	0,4	4,5	0,42	0,27	0,20	0,14
> 75 ... ≤ 150	D - 15	10,0	0,4	5,0	0,46	0,31	0,25	0,19
> 150 ... ≤ 300	D - 20	12,0	0,4	6,0	0,54	0,39	0,32	0,26
> 300 ... ≤ 500	D - 25	18,0	0,4	8,5	0,61	0,46	0,39	0,33
> 500 ... ≤ 750	D - 30	20,0	0,4	10,0	0,67	0,52	0,45	0,39
> 750 ...	D - 40	26,0	0,4	13,0	0,67	0,52	0,45	0,39

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>0,5 m/s</b>	<b>400 bar (40 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C		
S-ECOPUR™	-20 °C...+110 °C	0,7 m/s	
T-ECOPUR™	-50 °C...+110 °C	0,5 m/s	
G-ECOPUR™	-30 °C...+110 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

K01-P, D=100mm, d=85mm, L=10mm, ECOPUR®

**Piston Seal K01-P**  
Profile

**100 x 85 x 10**  
D x d x L

**ECOPUR®**  
Sealing material

# Seal data sheet

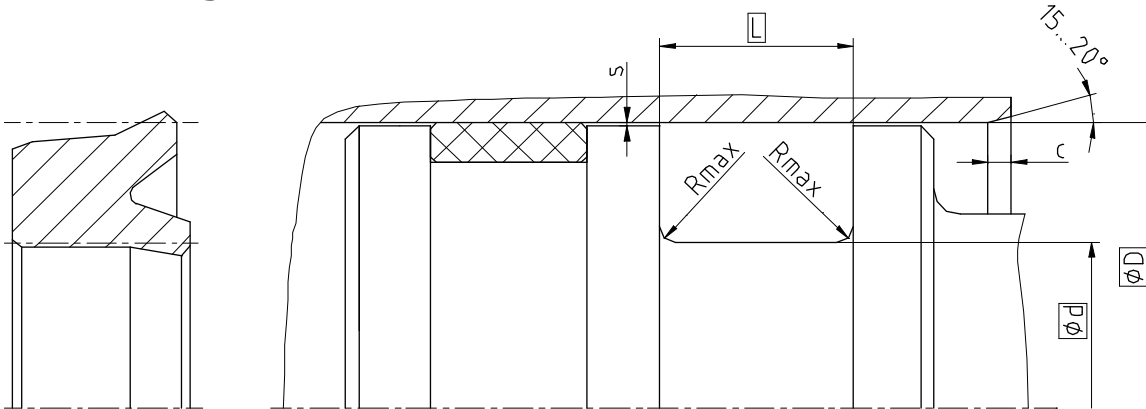
K01-PE



2008-09

## Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 13 ... ≤ 25	D - 8	6,0	0,4	3,5	0,33	0,18	0,11	0,05
> 25 ... ≤ 50	D - 10	7,0	0,4	4,0	0,37	0,22	0,16	0,10
> 50 ... ≤ 75	D - 12	8,0	0,4	4,5	0,42	0,27	0,20	0,14
> 75 ... ≤ 150	D - 15	10,0	0,4	5,0	0,46	0,31	0,25	0,19
> 150 ... ≤ 300	D - 20	12,0	0,4	6,0	0,54	0,39	0,32	0,26
> 300 ... ≤ 500	D - 25	18,0	0,4	8,5	0,61	0,46	0,39	0,33
> 500 ... ≤ 750	D - 30	20,0	0,4	10,0	0,67	0,52	0,45	0,39
> 750 ...	D - 40	26,0	0,4	13,0	0,67	0,52	0,45	0,39

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>0,5 m/s</b>	<b>400 bar (40 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C		
S-ECOPUR™	-20 °C...+110 °C	0,7 m/s	
T-ECOPUR™	-50 °C...+110 °C	0,5 m/s	
G-ECOPUR™	-30 °C...+110 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

K01-PE, D=100mm, d=85mm, L=10mm, ECOPUR

**Piston Seal K01-PE**  
Profile

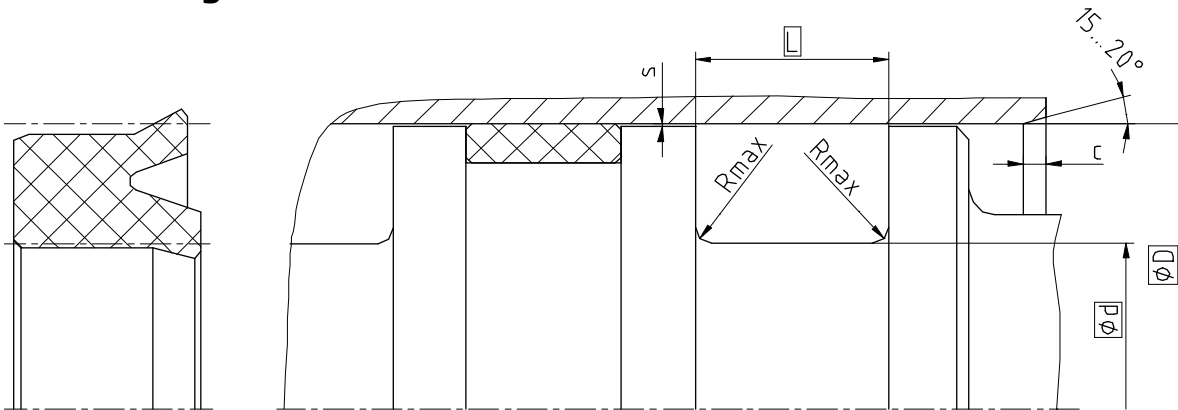
**100 x 85 x 10**  
D x d x L

**ECOPUR®**  
Sealing material



### Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*		
					20 bar	100 bar	160 bar
≥ 13 ... ≤ 25	D - 8	6,0	0,4	3,5	0,23	0,16	0,14
> 25 ... ≤ 50	D - 10	7,0	0,4	4,0	0,26	0,19	0,17
> 50 ... ≤ 75	D - 12	8,0	0,4	4,5	0,29	0,22	0,20
> 75 ... ≤ 150	D - 15	10,0	0,4	5,0	0,32	0,24	0,22
> 150 ... ≤ 300	D - 20	12,0	0,4	6,0	0,35	0,27	0,25
> 300 ... ≤ 500	D - 25	18,0	0,4	8,5	0,39	0,30	0,29
> 500 ... ≤ 750	D - 30	20,0	0,4	10,0	0,40	0,34	0,32
> 750 ...	D - 40	26,0	0,4	13,0	0,40	0,34	0,32

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>160 bar (16 MPa)</b>
SKF ECORUBBER-2	-20 °C...+200 °C		
SKF ECORUBBER-3	-50 °C...+150 °C		
SKF ECORUBBER-H	-25 °C...+150 °C		
SKF ECOSIL	-60 °C...+200 °C	-	-
SKF ECOFLAS	-10 °C...+200 °C	0,5 m/s	160 bar (16 MPa)

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

K01-R, D=100mm, d=85mm, L=10mm, SKF ECORUBBER-1

**Piston Seal K01-R**  
Profile

**100 x 85 x 10**  
D x d x L

**SKF ECORUBBER-1**  
Sealing material

# Seal data sheet

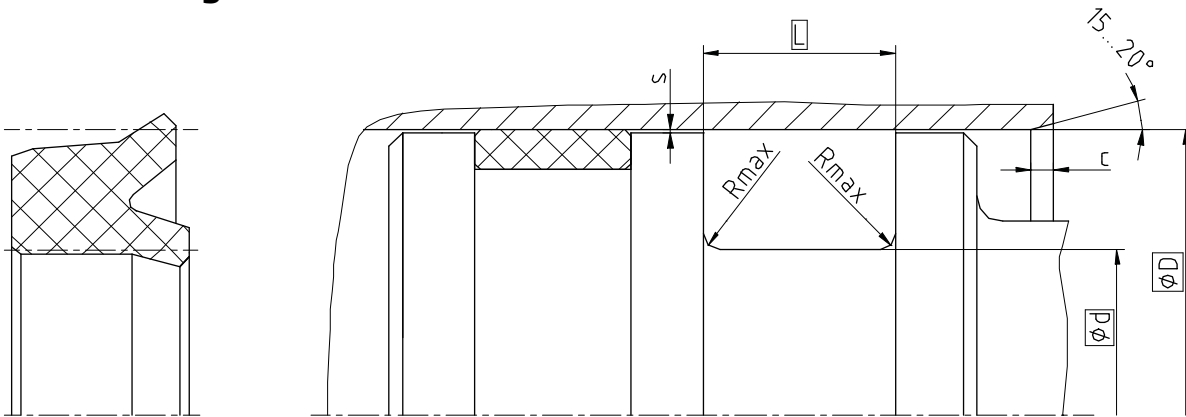
## Piston seals

### Seal housing

K01-RE



2008-09



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*		
					20 bar	100 bar	160 bar
≥ 13 ... ≤ 25	D - 8	6,0	0,4	3,5	0,23	0,16	0,14
> 25 ... ≤ 50	D - 10	7,0	0,4	4,0	0,26	0,19	0,17
> 50 ... ≤ 75	D - 12	8,0	0,4	4,5	0,29	0,22	0,20
> 75 ... ≤ 150	D - 15	10,0	0,4	5,0	0,32	0,24	0,22
> 150 ... ≤ 300	D - 20	12,0	0,4	6,0	0,35	0,27	0,25
> 300 ... ≤ 500	D - 25	18,0	0,4	8,5	0,39	0,30	0,29
> 500 ... ≤ 750	D - 30	20,0	0,4	10,0	0,40	0,34	0,32
> 750	D - 40	26,0	0,4	13,0	0,40	0,34	0,32

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>160 bar (16 MPa)</b>
SKF ECORUBBER-2	-20 °C...+200 °C		
SKF ECORUBBER-3	-50 °C...+150 °C		
SKF ECORUBBER-H	-25 °C...+150 °C		
SKF ECOSIL	-60 °C...+200 °C	-	-
SKF ECOFLAS	-10 °C...+200 °C	0,5 m/s	160 bar (16 MPa)

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

K01-RE, D=100mm, d=85mm, L=10mm, SKF ECORUBBER-1

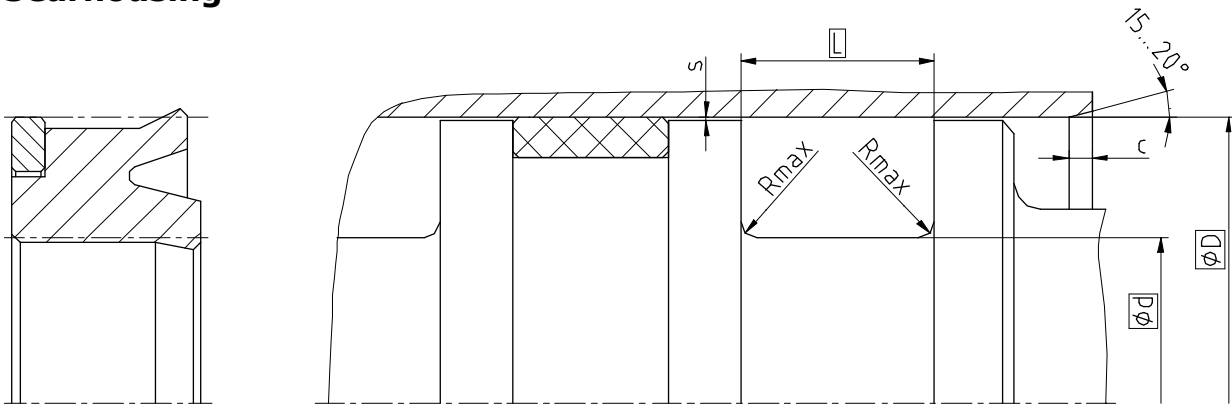
**Piston Seal K01-RE**  
Profile

**100 x 85 x 10**  
D x d x L

**SKF ECORUBBER-1**  
Sealing material

### Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	400 bar	700 bar
≥ 13 ... ≤ 25	D - 8	6,0	0,4	3,5	0,80	0,80	0,30	0,04
> 25 ... ≤ 50	D - 10	7,0	0,4	4,0	1,00	1,00	0,37	0,04
> 50 ... ≤ 75	D - 12	8,0	0,4	4,5	1,25	1,24	0,42	0,05
> 75 ... ≤ 150	D - 15	10,0	0,4	5,0	1,50	1,47	0,46	0,05
> 150 ... ≤ 300	D - 20	12,0	0,4	6,0	2,00	1,77	0,54	0,06
> 300 ... ≤ 500	D - 25	18,0	0,4	8,5	2,5	2,06	0,62	0,06
> 500 ... ≤ 750	D - 30	20,0	0,4	10,0	3,00	2,43	0,76	0,06
> 750	D - 40	26,0	0,4	13,0	3,00	2,43	0,76	0,06

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>700 bar (70 MPa)</b>
H-ECOPUR™		-20 °C...+100 °C		
S-ECOPUR™		-20 °C...+100 °C	0,7 m/s	
T-ECOPUR™		-40 °C...+100 °C	0,5 m/s	
G-ECOPUR™		-30 °C...+100 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

K02-P, D=100mm, d=85mm, L=10mm, ECOPUR® / SKF ECOTAL

**Piston Seal K02-P**  
Profile

**100 x 85 x 10**  
D x d x L

**ECOPUR® / SKF ECOTAL**  
Sealing material / Backup ring

# Seal data sheet

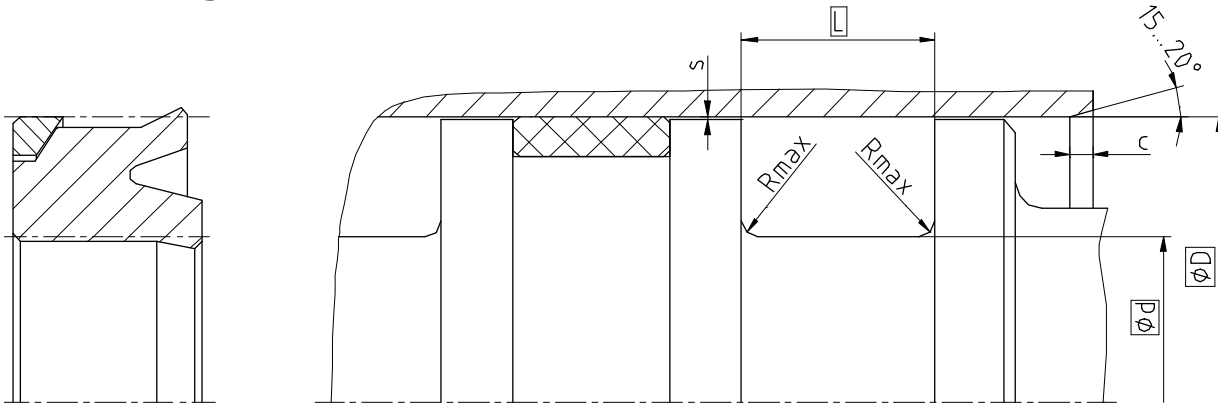
K02-PD



2008-09

## Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	400 bar	700 bar
≥ 13 ... ≤ 25	D - 8	6,0	0,4	3,5	0,80	0,80	0,30	0,04
> 25 ... ≤ 50	D - 10	7,0	0,4	4,0	1,00	1,00	0,37	0,04
> 50 ... ≤ 75	D - 12	8,0	0,4	4,5	1,25	1,24	0,42	0,05
> 75 ... ≤ 150	D - 15	10,0	0,4	5,0	1,50	1,47	0,46	0,05
> 150 ... ≤ 300	D - 20	12,0	0,4	6,0	2,00	1,77	0,54	0,06
> 300 ... ≤ 500	D - 25	18,0	0,4	8,5	2,5	2,06	0,62	0,06
> 500 ... ≤ 750	D - 30	20,0	0,4	10,0	3,00	2,43	0,76	0,06
> 750	D - 40	26,0	0,4	13,0	3,00	2,43	0,76	0,06

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>700 bar (70 MPa)</b>
H-ECOPUR™		-20 °C...+100 °C		
S-ECOPUR™		-20 °C...+100 °C	0,7 m/s	
T-ECOPUR™		-40 °C...+100 °C	0,5 m/s	
G-ECOPUR™		-30 °C...+100 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

K02-PD, D=100mm, d=85mm, L=10mm, ECOPUR® / SKF ECOTAL

**Piston Seal K02-PD**  
Profile

**100 x 85 x 10**  
D x d x L

**ECOPUR® / SKF ECOTAL**  
Sealing material / Backup ring

# Seal data sheet

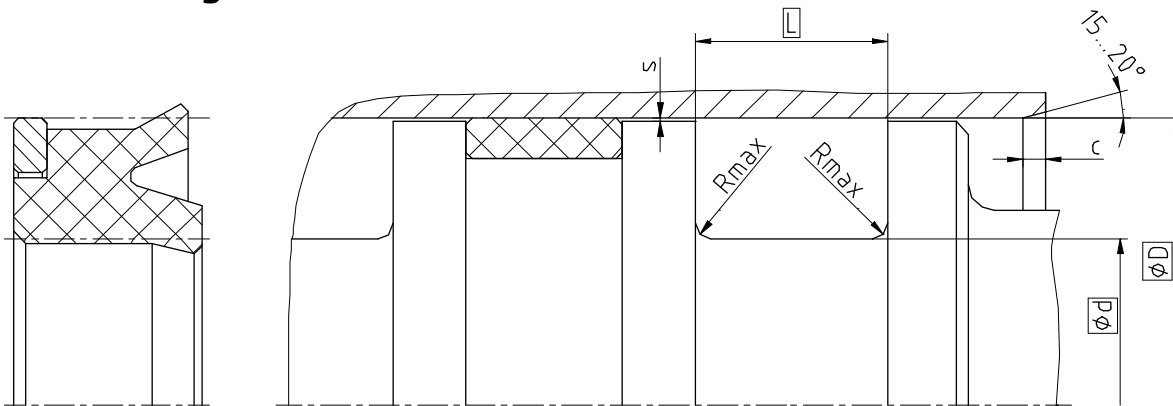
K02-R



2008-09

## Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*		
					20 bar	100 bar	250 bar
≥ 13 ... ≤ 25	D - 8	6,0	0,4	3,5	0,80	0,80	0,52
> 25 ... ≤ 50	D - 10	7,0	0,4	4,0	1,00	1,00	0,66
> 50 ... ≤ 75	D - 12	8,0	0,4	4,5	1,25	1,20	0,72
> 75 ... ≤ 150	D - 15	10,0	0,4	5,0	1,50	1,40	0,78
> 150 ... ≤ 300	D - 20	12,0	0,4	6,0	2,00	1,66	0,88
> 300 ... ≤ 500	D - 25	18,0	0,4	8,5	2,50	1,91	1,00
> 500 ... ≤ 750	D - 30	20,0	0,4	10,0	3,00	2,18	1,13
> 750	D - 40	26,0	0,4	13,0	3,00	2,18	1,13

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECORUBBER-1</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>250 bar (25 MPa)</b>
SKF ECORUBBER-2	SKF ECOFLON 2	-20 °C...+200 °C		
SKF ECORUBBER-3	SKF ECOTAL SKF ECOMID <sup>2</sup>	-40 °C...+100 °C		
	SKF ECOFLON 2	-50 °C...+150 °C		
SKF ECORUBBER-H	SKF ECOTAL SKF ECOMID <sup>2</sup>	-25 °C...+100 °C		
	SKF ECOFLON 2	-25 °C...+150 °C		
SKF ECOFLAS	SKF ECOPAEK	-10 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

K02-R, D=100mm, d=85mm, L=10mm, SKF ECORUBBER-1 / SKF ECOTAL

**Piston Seal K02-R**  
Profile

**100 x 85 x 10**  
D x d x L

**SKF ECORUBBER-1 / SKF ECOTAL**  
Sealing material / Backup ring

**ECONOMOS**

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# Seal data sheet

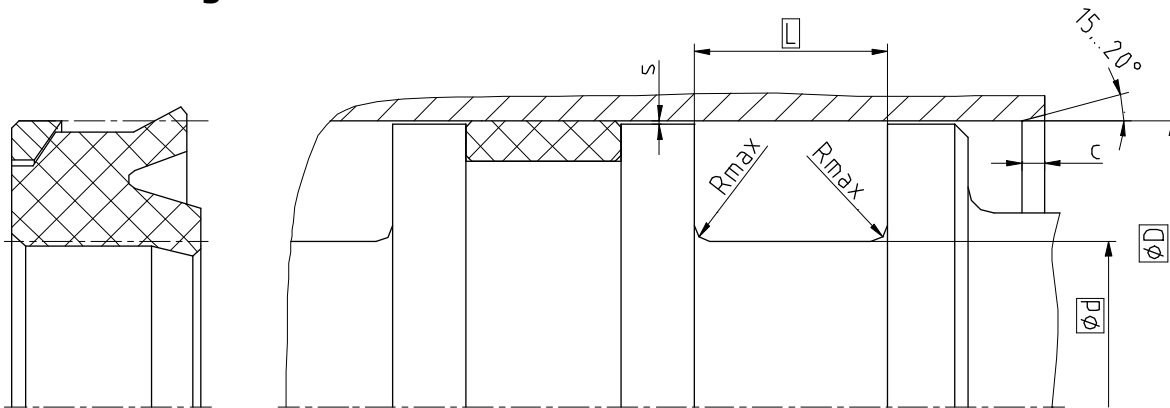
K02-RD



2008-09

## Piston seals

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*		
					20 bar	100 bar	250 bar
≥ 13 ... ≤ 25	D - 8	6,0	0,4	3,5	0,80	0,80	0,52
> 25 ... ≤ 50	D - 10	7,0	0,4	4,0	1,00	1,00	0,66
> 50 ... ≤ 75	D - 12	8,0	0,4	4,5	1,25	1,20	0,72
> 75 ... ≤ 150	D - 15	10,0	0,4	5,0	1,50	1,40	0,78
> 150 ... ≤ 300	D - 20	12,0	0,4	6,0	2,00	1,66	0,88
> 300 ... ≤ 500	D - 25	18,0	0,4	8,5	2,50	1,91	1,00
> 500 ... ≤ 750	D - 30	20,0	0,4	10,0	3,00	2,18	1,13
> 750	D - 40	26,0	0,4	13,0	3,00	2,18	1,13

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

## Operating parameters

Sealing material	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECORUBBER-1</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>250 bar (25 MPa)</b>
SKF ECORUBBER-2	SKF ECOFLON 2	-20 °C...+200 °C		
SKF ECORUBBER-3	SKF ECOTAL SKF ECOMID <sup>2</sup>	-40 °C...+100 °C		
	SKF ECOFLON 2	-50 °C...+150 °C		
SKF ECORUBBER-H	SKF ECOTAL SKF ECOMID <sup>2</sup>	-25 °C...+100 °C		
	SKF ECOFLON 2	-25 °C...+150 °C		
SKF ECOFLAS	SKF ECOPA EK	-10 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

## Ordering examples

K02-RD, D=100mm, d=85mm, L=10mm, SKF ECORUBBER-1 / SKF ECOTAL

**Piston Seal K02-RD**  
Profile

**100 x 85 x 10**  
D x d x L

**SKF ECORUBBER-1 / SKF ECOTAL**  
Sealing material / Backup ring

**ECONOMOS**

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# Seal data sheet

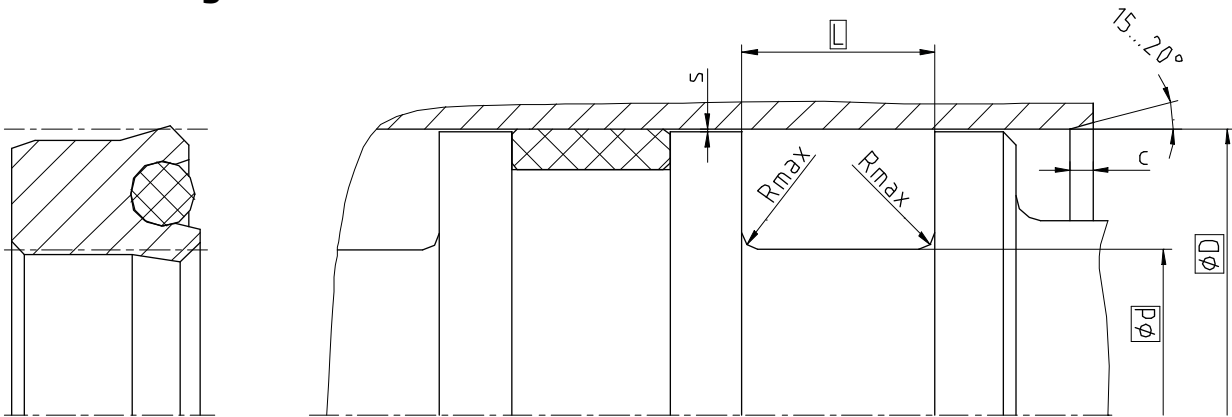
K03-P



2008-09

## Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 13 ... ≤ 25	D - 8	6,0	0,4	3,5	0,33	0,18	0,11	0,05
> 25 ... ≤ 50	D - 10	7,0	0,4	4,0	0,37	0,22	0,16	0,10
> 50 ... ≤ 75	D - 12	8,0	0,4	4,5	0,42	0,27	0,20	0,14
> 75 ... ≤ 150	D - 15	10,0	0,4	5,0	0,46	0,31	0,25	0,19
> 150 ... ≤ 300	D - 20	12,0	0,4	6,0	0,54	0,39	0,32	0,26
> 300 ... ≤ 500	D - 25	18,0	0,4	8,5	0,61	0,46	0,39	0,33
> 500 ... ≤ 600	D - 30	20,0	0,4	10,0	0,67	0,52	0,45	0,39

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>NBR70</b>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>400 bar (40 MPa)</b>
H-ECOPUR™		-20 °C...+100 °C		
S-ECOPUR™			0,7 m/s	
T-ECOPUR™	MVQ70	-50 °C...+110 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

K03-P, D=100mm, d=85mm, L=10mm, ECOPUR / NBR70

**Piston Seal K03-P**  
Profile

**100 x 85 x 10**  
D x d x L

**ECOPUR® / NBR70**  
Sealing material / Backup ring

# Seal data sheet

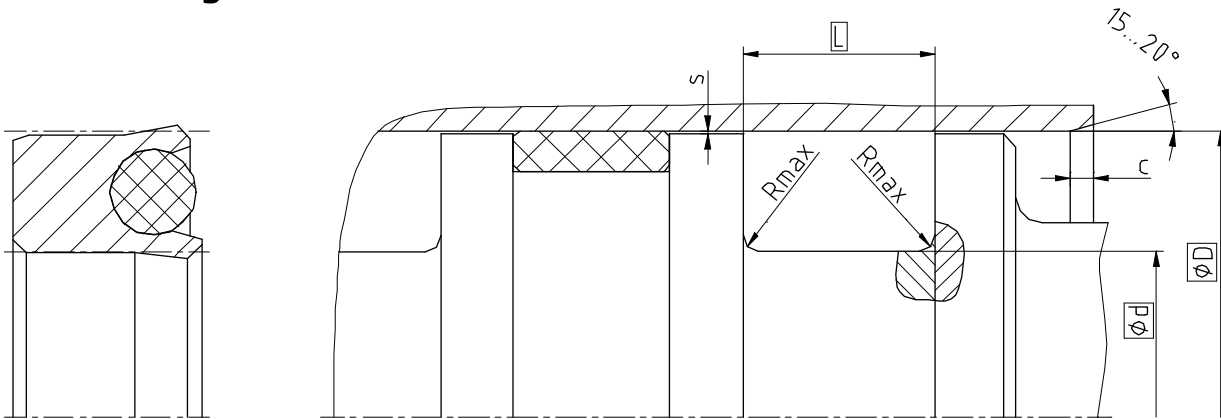
## Piston seals

### Seal housing

K03-F



2008-09



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 μm	0,05...0,3 μm
Bottom of groove	≤ 6,3 μm	≤ 1,6 μm
Groove face	≤ 15 μm	≤ 3 μm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 13 ... ≤ 25	D - 8	6,4	0,4	3,5	0,40	0,20	0,15	0,09
> 25 ... ≤ 50	D - 10	8,5	0,4	4,0	0,45	0,22	0,17	0,10
> 50 ... ≤ 75	D - 12	10,0	0,4	4,5	0,60	0,36	0,25	0,14
> 75 ... ≤ 150	D - 15	12,3	0,4	5,0	0,75	0,40	0,33	0,18
> 150 ... ≤ 300	D - 20	16,0	0,4	6	0,87	0,48	0,38	0,20
> 300 ... ≤ 500	D - 25	19,8	0,4	8,5	0,87	0,48	0,38	0,20
> 500 ... ≤ 600	D - 30	24,5	0,4	10,0	0,87	0,48	0,38	0,20

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOFLON 1	MVQ70	-55 °C...+200 °C	<b>1,0 m/s</b>	<b>200 bar (20 MPa)</b>
SKF ECOFLON 2	NBR70	-30 °C...+100 °C		400 bar (40 MPa)
<b>SKF ECOFLON 3</b>	<b>FPM75</b>	<b>-20 °C...+200 °C</b>		
SKF ECOFLON 4	EPDM70	-50 °C...+150 °C		
SKF ECOWEAR 1000	NBR70	-30 °C...+80 °C	0,5 m/s	200 bar (20 MPa)
	FPM75	-20 °C...+80 °C		
	EPDM70	-50 °C...+80 °C		
	MVQ70	-55 °C...+80 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

K03-F, D=100mm, D=85mm, L=12,3mm, SKF ECOFLON 3 / FPM75

**Piston Seal K03-F**  
Profile

**100 x 85 x 12,3**  
D x d x L

**SKF ECOFLON 3 / FPM75**  
Sealing material / Backup ring



# Seal data sheet

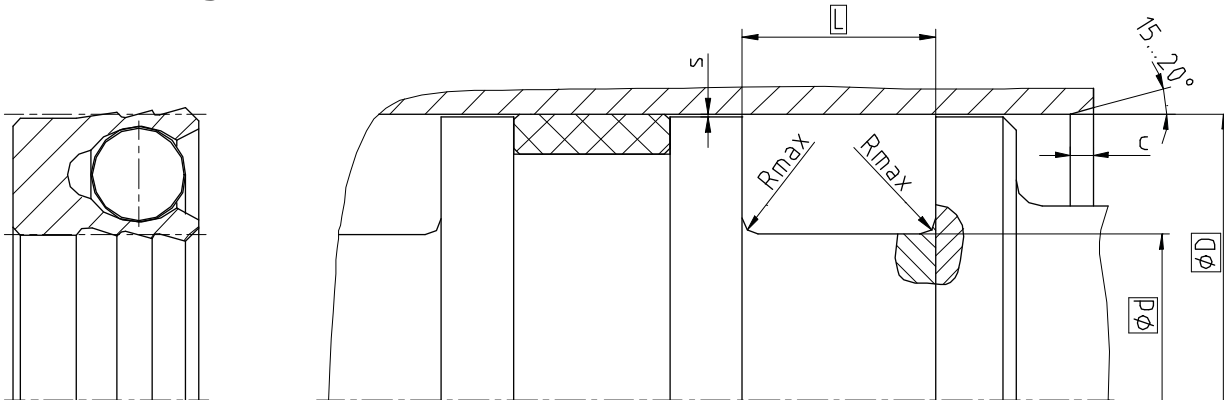
K03-S



2008-09

## Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 9 ... ≤ 15	D - 4	3,5	0,4	2,0	0,25	0,12	0,10	0,07
> 15 ... ≤ 30	D - 6	5,0	0,4	3,0	0,35	0,17	0,12	0,08
> 30 ... ≤ 120	D - 10	8,0	0,4	4,0	0,45	0,22	0,17	0,10
> 120 ... ≤ 200	D - 15	11,5	0,4	5,0	0,75	0,40	0,33	0,18
> 200 ... ≤ 250	D - 20	13,0	0,4	6,0	0,87	0,48	0,38	0,20
> 250 ... ≤ 500	D - 25	18,5	0,4	8,5	0,87	0,48	0,38	0,20
> 500 ... ≤ 1600	D - 30	23,0	0,4	10,0	0,87	0,48	0,38	0,20

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Spring	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOFLON 1	1.4310	-200 °C...+260 °C	1 m/s	200 bar (20 MPa)
SKF ECOFLON 2 SKF ECOFLON 3 SKF ECOFLON 4				400 bar (40 MPa)
SKF ECOWEAR 1000		-200 °C...+80 °C	0,5 m/s	200 bar (20 MPa)

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

K03-S, D=100mm, d=90mm, L=8mm, SKF ECOFLON 3 / 1.4310

**Piston Seal K03-S**  
Profile

**100 x 90 x 8**  
D x d x L

**SKF ECOFLON 3 / 1.4310**  
Sealing material / Spring

# Seal data sheet

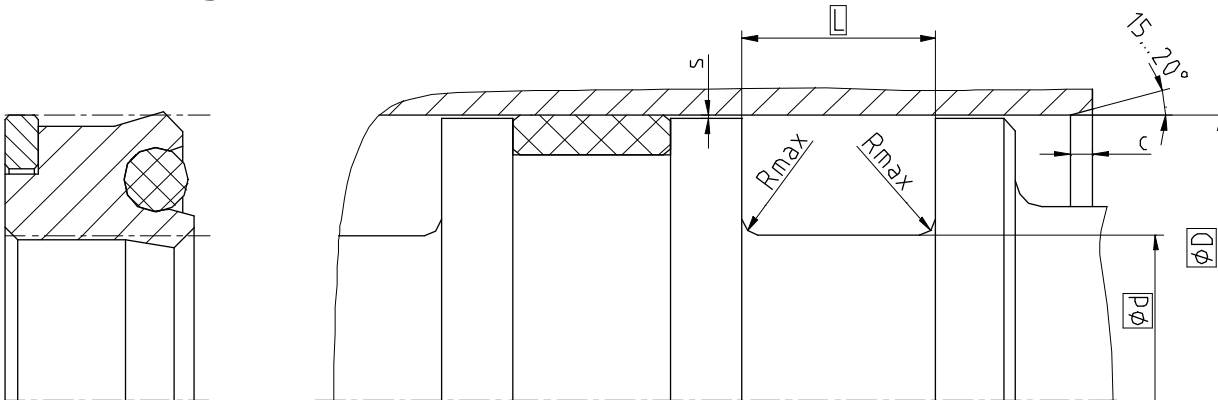
K04-P



2008-09

## Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 μm	0,1...0,5 μm
Bottom of groove	≤ 6,3 μm	≤ 1,6 μm
Groove face	≤ 15 μm	≤ 3 μm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	400 bar	700 bar
≥ 13 ... ≤ 25	D - 8	6,0	0,4	3,5	0,80	0,80	0,30	0,04
> 25 ... ≤ 50	D - 10	7,0	0,4	4,0	1,00	1,00	0,37	0,04
> 50 ... ≤ 75	D - 12	8,0	0,4	4,5	1,25	1,24	0,42	0,05
> 75 ... ≤ 150	D - 15	10,0	0,4	5,0	1,50	1,47	0,46	0,05
> 150 ... ≤ 300	D - 20	12,0	0,4	6,0	2,00	1,77	0,54	0,06
> 300 ... ≤ 500	D - 25	18,0	0,4	8,5	2,50	2,06	0,62	0,06
> 500 ... ≤ 600	D - 30	20,0	0,4	10,0	3,00	2,43	0,76	0,06

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>NBR70</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>700 bar (70 MPa)</b>
H-ECOPUR™			-20 °C...+100 °C		
S-ECOPUR™			-40 °C...+100 °C		
T-ECOPUR™	MVQ70	0,5 m/s			

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

K04-P, D=100mm, d=85mm, L=10mm, ECOPUR® / NBR70 / SKF ECOTAL

**Piston Seal K04-P**  
Profile

**100 x 85 x 10**  
D x d x L

**ECOPUR® / NBR70 / SKF ECOTAL**  
Sealing material / Energizer / Backup ring

# Seal data sheet

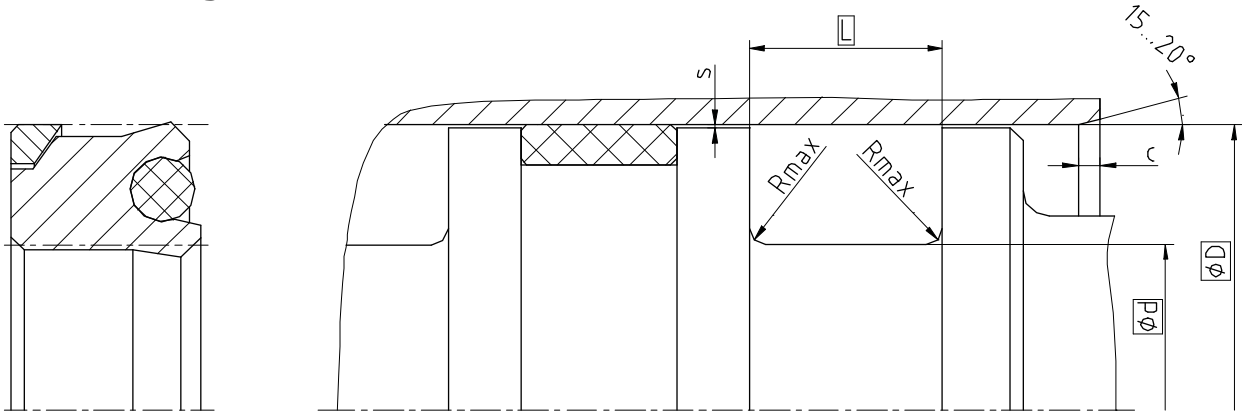
K04-PD



2008-09

## Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	400 bar	700 bar
≥ 13 ... ≤ 25	D - 8	6,0	0,4	3,5	0,80	0,80	0,30	0,04
> 25 ... ≤ 50	D - 10	7,0	0,4	4,0	1,00	1,00	0,37	0,04
> 50 ... ≤ 75	D - 12	8,0	0,4	4,5	1,25	1,24	0,42	0,05
> 75 ... ≤ 150	D - 15	10,0	0,4	5,0	1,50	1,47	0,46	0,05
> 150 ... ≤ 300	D - 20	12,0	0,4	6,0	2,00	1,77	0,54	0,06
> 300 ... ≤ 500	D - 25	18,0	0,4	8,5	2,50	2,06	0,62	0,06
> 500 ... ≤ 600	D - 30	20,0	0,4	10,0	3,00	2,43	0,76	0,06

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>NBR70</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	-30 °C...+100 °C	<b>0,5 m/s</b>	<b>700 bar (70 MPa)</b>
H-ECOPUR™			-20 °C...+100 °C		
S-ECOPUR™			-40 °C...+100 °C	0,7 m/s	
T-ECOPUR™	MVQ70	0,5 m/s			

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

K04-PD, D=100mm, d=85mm, L=10mm, ECOPUR® / NBR70 / SKF ECOTAL

**Piston Seal K04-PD**  
Profile

**100 x 85 x 10**  
D x d x L

**ECOPUR® / NBR70 / SKF ECOTAL**  
Sealing material / Energizer / Backup ring

# Seal data sheet

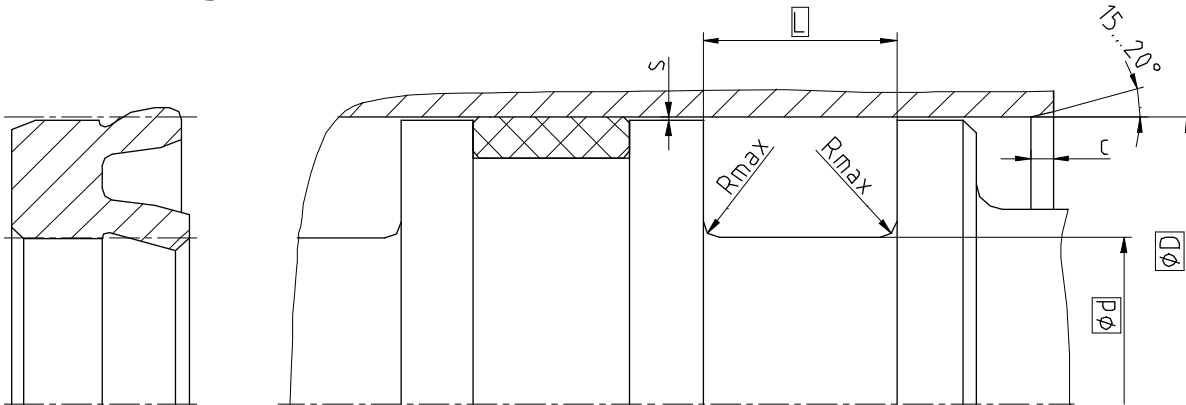
K05-P



2008-09

## Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	s*
≥ 13 ... ≤ 25	D - 8	6,0	0,4	3,5	0,33
> 25 ... ≤ 50	D - 10	7,0	0,4	4,0	0,37
> 50 ... ≤ 75	D - 12	8,0	0,4	4,5	0,42
> 75 ... ≤ 150	D - 15	10,0	0,4	5,0	0,46
> 150 ... ≤ 300	D - 20	12,0	0,4	6,0	0,54
> 300 ... ≤ 500	D - 25	18,0	0,4	8,5	0,61
> 500 ... ≤ 750	D - 30	20,0	0,4	10,0	0,67
> 750	D - 40	26,0	0,4	13,0	0,67

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Temperature	max. speed	max. pressure
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>1 m/s</b>	<b>25 bar (2,5 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C		
S-ECOPUR™		2 m/s	
T-ECOPUR™	-50 °C...+110 °C	1 m/s	
G-ECOPUR™	-30 °C...+110 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

K05-P, D=100mm, d=85mm, L=10mm, ECOPUR®

**Piston Seal K05-P**  
Profile

**100 x 85 x 10**  
D x d x L

**ECOPUR®**  
Sealing material

**ECONOMOS**

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# Seal data sheet

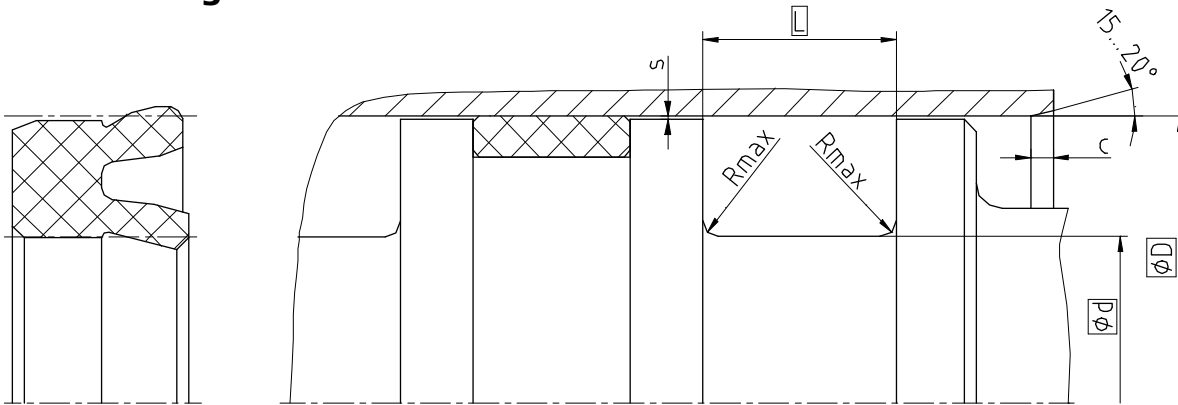
K05-R



2008-09

## Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	s*
≥ 13 ... ≤ 25	D - 8	6,0	0,4	3,5	0,33
> 25 ... ≤ 50	D - 10	7,0	0,4	4,0	0,37
> 50 ... ≤ 75	D - 12	8,0	0,4	4,5	0,42
> 75 ... ≤ 150	D - 15	10,0	0,4	5,0	0,46
> 150 ... ≤ 300	D - 20	12,0	0,4	6,0	0,54
> 300 ... ≤ 500	D - 25	18,0	0,4	8,5	0,61
> 500 ... ≤ 750	D - 30	20,0	0,4	10,0	0,67
> 750	D - 40	26,0	0,4	13,0	0,67

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Temperature	max. speed	max. pressure
<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	<b>1 m/s</b>	<b>25 bar (2,5 MPa)</b>
SKF ECORUBBER-2	-20 °C...+200 °C		
SKF ECORUBBER-3	-50 °C...+150 °C		
SKF ECORUBBER-H	-25 °C...+150 °C		
SKF ECOFLAS	-10 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

K05-R, D=100mm, d=85mm, L=10mm, SKF ECORUBBER-1

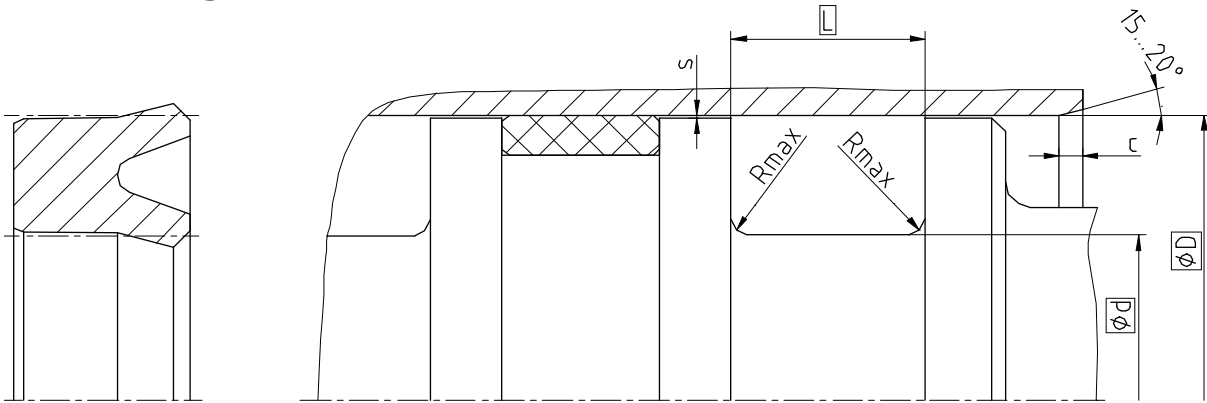
**Piston Seal K05-R**  
Profile

**100 x 85 x 10**  
D x d x L

**SKF ECORUBBER-1**  
Sealing material

### Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 14 ... ≤ 25	D - 8	6,0	0,4	3,5	0,33	0,18	0,11	0,05
> 25 ... ≤ 50	D - 10	7,0	0,4	4,0	0,37	0,22	0,16	0,10
> 50 ... ≤ 75	D - 12	8,0	0,4	4,5	0,42	0,27	0,20	0,14
> 75 ... ≤ 150	D - 15	10,0	0,4	5,0	0,46	0,31	0,25	0,19
> 150 ... ≤ 300	D - 20	12,0	0,4	6,0	0,54	0,39	0,32	0,26
> 300 ... ≤ 500	D - 25	18,0	0,4	8,5	0,61	0,46	0,39	0,33
> 500 ... ≤ 750	D - 30	20,0	0,4	10,0	0,67	0,52	0,45	0,39
> 750	D - 40	26,0	0,4	13,0	0,67	0,52	0,45	0,39

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>0,5 m/s</b>	<b>400 bar (40 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C		
S-ECOPUR™		0,7 m/s	
T-ECOPUR™	-50 °C...+110 °C	0,5 m/s	
G-ECOPUR™	-30 °C...+110 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

K06-P, D=100mm, d=85mm, L=10mm, ECOPUR

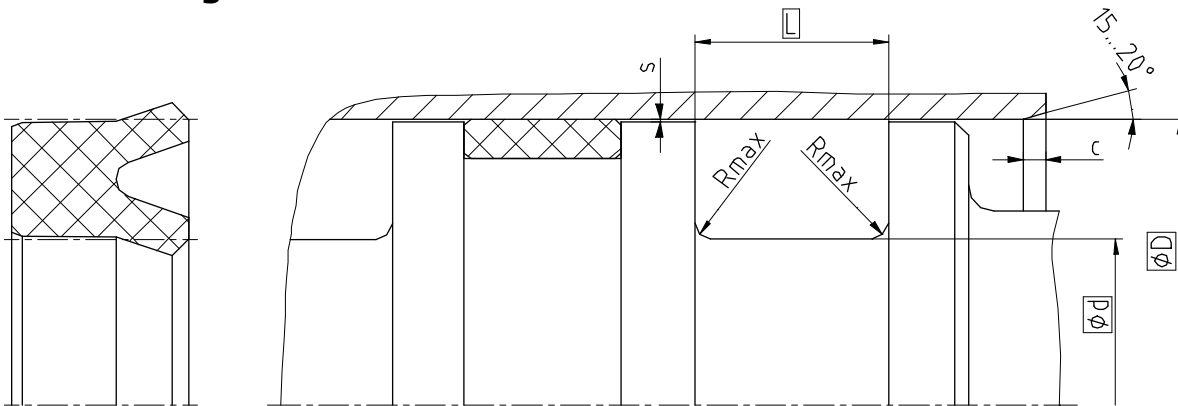
**Piston Seal K06-P**  
Profile

**100 x 85 x 10**  
D x d x L

**ECOPUR®**  
Sealing material

### Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*		
					20 bar	100 bar	160 bar
≥ 14 ... ≤ 25	D - 8	6,0	0,4	3,5	0,23	0,16	0,14
> 25 ... ≤ 50	D - 10	7,0	0,4	4,0	0,26	0,19	0,17
> 50 ... ≤ 75	D - 12	8,0	0,4	4,5	0,29	0,22	0,20
> 75 ... ≤ 150	D - 15	10,0	0,4	5,0	0,31	0,24	0,22
> 150 ... ≤ 300	D - 20	12,0	0,4	6,0	0,34	0,27	0,25
> 300 ... ≤ 500	D - 25	18,0	0,4	8,5	0,37	0,30	0,29
> 500 ... ≤ 750	D - 30	20,0	0,4	10,0	0,40	0,34	0,32
> 750	D - 40	26,0	0,4	13,0	0,40	0,34	0,32

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>160 bar (16 MPa)</b>
SKF ECORUBBER-2	-20 °C...+200 °C		
SKF ECORUBBER-3	-50 °C...+150 °C		
SKF ECORUBBER-H	-25 °C...+150 °C		
SKF ECOSIL	-60 °C...+200 °C	-	-
SKF ECOFLAS	0 °C...+200 °C	0,5 m/s	160 bar (16 MPa)

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

K06-R, D=100mm, d=85mm, L=10mm, SKF ECORUBBER-1

**Piston Seal K06-R**  
Profile

**100 x 85 x 10**  
D x d x L

**SKF ECORUBBER-1**  
Sealing material

# Seal data sheet

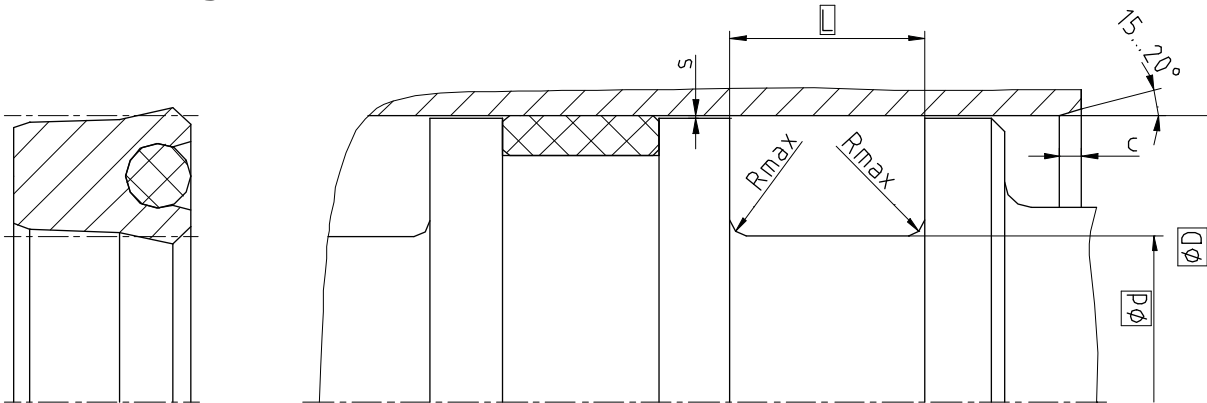
K07-P



2008-09

## Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 13 ... ≤ 25	D - 8	6,0	0,4	3,5	0,33	0,18	0,11	0,05
> 25 ... ≤ 50	D - 10	7,0	0,4	4,0	0,37	0,22	0,16	0,10
> 50 ... ≤ 75	D - 12	8,0	0,4	4,5	0,42	0,27	0,20	0,14
> 75 ... ≤ 150	D - 15	10,0	0,4	5,0	0,46	0,31	0,25	0,19
> 150 ... ≤ 300	D - 20	12,0	0,4	6,0	0,54	0,39	0,32	0,26
> 300 ... ≤ 500	D - 25	18,0	0,4	8,5	0,61	0,46	0,39	0,33
> 500 ... ≤ 600	D - 30	20,0	0,4	10,0	0,67	0,52	0,45	0,39

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>NBR70</b>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>400 bar (40 MPa)</b>
H-ECOPUR™		-20 °C...+100 °C		
S-ECOPUR™			0,7 m/s	
T-ECOPUR™	<b>MVQ70</b>	<b>-50 °C...+110 °C</b>	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

K07-P, D=100mm, d=85mm, L=10mm, ECOPUR® / NBR70

**Piston Seal K07-P**  
Profile

**100 x 85 x 10**  
D x d x L

**ECOPUR® / NBR70**  
Sealing material / Energizer



# Seal data sheet

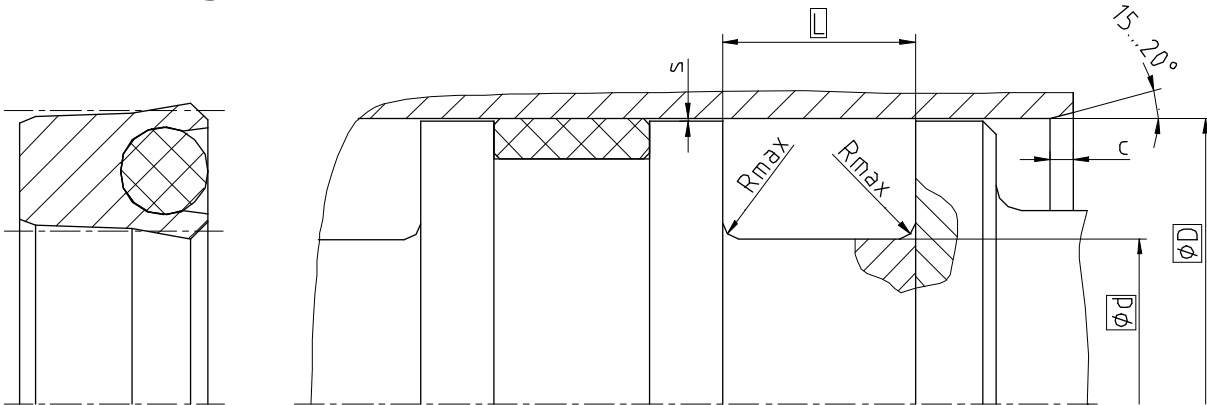
K07-F



2008-09

## Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 13 ... ≤ 25	D - 8	6,4	0,4	3,5	0,25	0,12	0,10	0,07
> 25 ... ≤ 50	D - 10	8,5	0,4	4,0	0,35	0,17	0,12	0,08
> 50 ... ≤ 75	D - 12	10,0	0,4	4,5	0,45	0,22	0,17	0,10
> 75 ... ≤ 150	D - 15	12,3	0,4	5,0	0,75	0,40	0,33	0,18
> 150 ... ≤ 300	D - 20	16,0	0,4	6,0	0,87	0,48	0,38	0,20
> 300 ... ≤ 500	D - 25	19,8	0,4	8,5	0,87	0,48	0,38	0,20
> 500 ... ≤ 600	D - 30	24,5	0,4	10,0	0,87	0,48	0,38	0,20

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOFLON 1 SKF ECOFLON 2 <b>SKF ECOFLON 3</b> SKF ECOFLON 4	MVQ70	-55 °C...+200 °C	<b>1,0 m/s</b>	<b>200 bar (20 MPa)</b>
	NBR70	-30 °C...+100 °C		400 bar (40 MPa)
	<b>FPM75</b>	<b>-20 °C...+200 °C</b>		
	EPDM70	-50 °C...+150 °C		
SKF ECOWEAR 1000	NBR70	-30 °C...+80 °C	0,5 m/s	200 bar (20 MPa)
	FPM75	-20 °C...+80 °C		
	EPDM70	-50 °C...+80 °C		
	MVQ70	-55 °C...+80 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

K07-F, D=100mm, d=85mm, L=12,3mm, SKF ECOFLON 3 / FPM75

**Piston Seal K07-F**  
Profile

**100 x 85 x 12,3**  
D x d x L

**SKF ECOFLON 3 / FPM75**  
Sealing material / Energizer

# Seal data sheet

## Piston seals

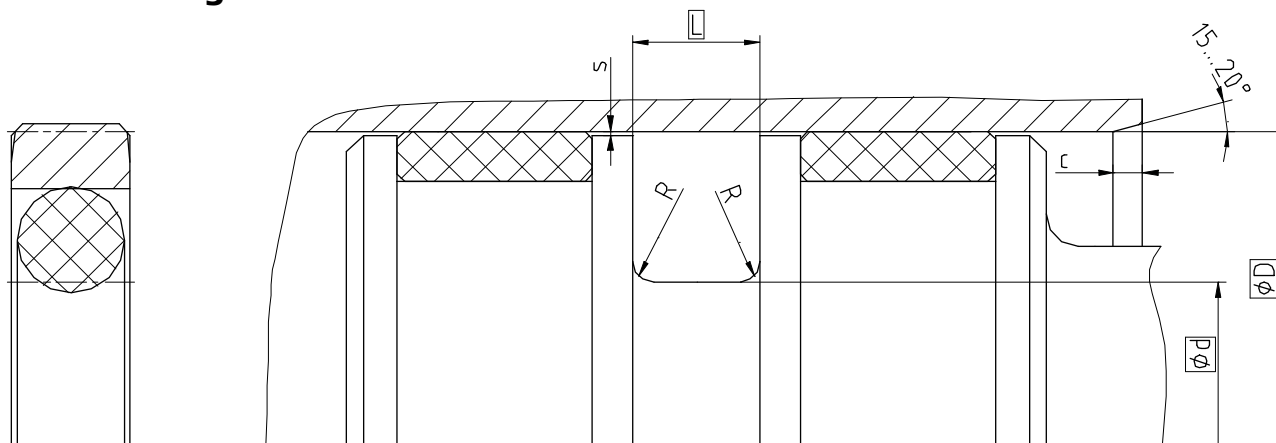
### Seal housing

K08-D

X-Slide



2008-09



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

øD H9	ød h10	L +0,2	R	c	øOD	max. radial extrusion gap s*			
						100 bar	200 bar	400 bar	600 bar
≥ 10 ... < 15	D - 4,9	2,2	0,4	2,5	1,78	0,30	0,30	0,20	0,10
≥ 15 ... < 40	D - 7,5	3,2	0,6	3,5	2,62	0,40	0,30	0,20	0,10
≥ 40 ... < 80	D - 11	4,2	1,0	4,5	3,53	0,50	0,40	0,30	0,20
≥ 80 ... < 133	D - 15,5	6,3	1,3	5,0	5,33	0,50	0,40	0,30	0,20
≥ 133 ... < 330	D - 21	8,1	1,8	6,0	7,00	0,70	0,50	0,40	0,20
≥ 330 ... < 670	D - 24,5	8,1	1,8	8,0	7,00	0,70	0,50	0,40	0,20
≥ 670 ... < 1000	D - 28	9,5	2,5	10,0	8,40	0,80	0,70	0,50	0,30
≥ 1000 ... ≤ 3000	D - 38	13,8	3,0	12,0	12,00	1,10	0,80	0,70	0,40

\* The extrusion gap referred to is valid up to 80 °C and valid for the side opposite to the pressure side; higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
X-ECOPUR™ XH-ECOPUR™ XS-ECOPUR™ G-ECOPUR 54D™	NBR70	-30 °C...+100 °C	5 m/s	600 bar (60 MPa)
	MVQ70	-55 °C...+110 °C		
SKF ECOWEAR 1000	NBR70	-30 °C...+80 °C		400 bar (40 MPa)
	MVQ70	-55 °C...+80 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

X-Slide K08-D, D=100mm, d=84,5mm, L=6,3mm, X-ECOPUR™ / NBR70

**X-Slide K08-D**  
Profile

**100 x 84,5 x 6,3**  
D x d x L

**X-ECOPUR™ / NBR70**  
Sealing material / Energizer

# Seal data sheet

## Piston seals

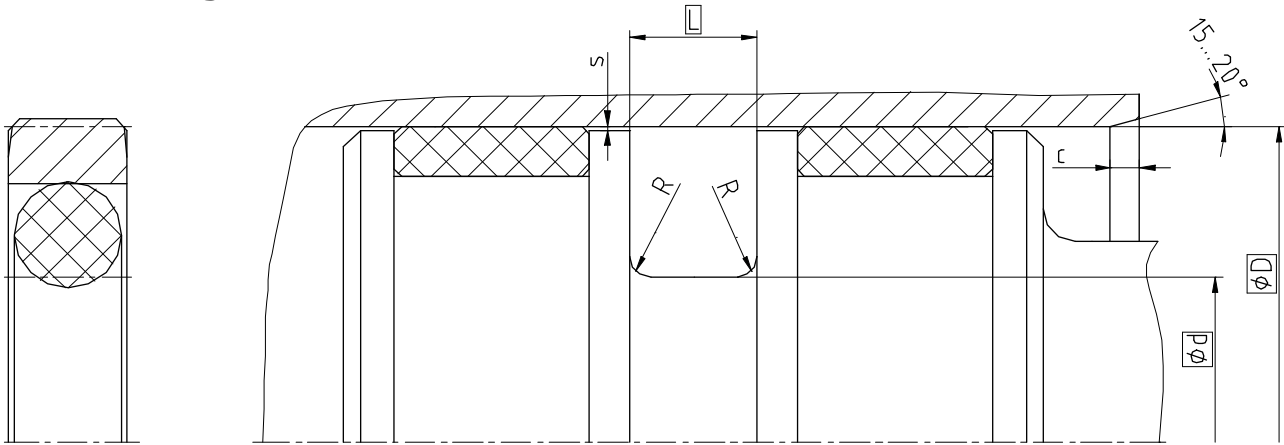
### Seal housing

K08-D

F-Slide



2008-09



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	R	c	ØOD	max. radial extrusion gap s*			
						100 bar	200 bar	400 bar	600 bar
≥ 10 ... < 15	D - 4,9	2,2	0,4	2,5	1,78	0,30	0,20	0,15	0,05
≥ 15 ... < 40	D - 7,5	3,2	0,6	3,5	2,62	0,40	0,25	0,15	0,05
≥ 40 ... < 80	D - 11	4,2	1,0	4,5	3,53	0,40	0,25	0,20	0,10
≥ 80 ... < 133	D - 15,5	6,3	1,3	5,0	5,33	0,50	0,30	0,20	0,10
≥ 133 ... < 330	D - 21	8,1	1,8	6,0	7,00	0,60	0,35	0,25	0,15
≥ 330 ... < 670	D - 24,5	8,1	1,8	8,0	7,00	0,60	0,35	0,25	0,15
≥ 670 ... < 1000	D - 28	9,5	2,5	10,0	8,40	0,70	0,50	0,30	0,20
≥ 1000 ... ≤ 2000	D - 38	13,8	3,0	12,0	12,00	1,00	0,70	0,60	0,30

\* The extrusion gap referred to is valid up to 80 °C and valid for the side opposite to the pressure side; higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOFLON 2 SKF ECOFLON 3 <b>SKF ECOFLON 3F</b> SKF ECOFLON 4	<b>NBR70</b>	<b>-30 °C...+100 °C</b>	<b>10 m/s</b>	<b>600 bar (60 MPa)</b>
	FKM70	-20 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

F-Slide K08-D, D=100mm, d=84,5mm, L=6,3mm, SKF ECOFLON 3F / NBR70

**F-Slide K08-D**  
Profile

**100 x 84,5 x 6,3**  
D x d x L

**SKF ECOFLON 3F / NBR70**  
Sealing material / Energizer

# Seal data sheet

## Piston seals

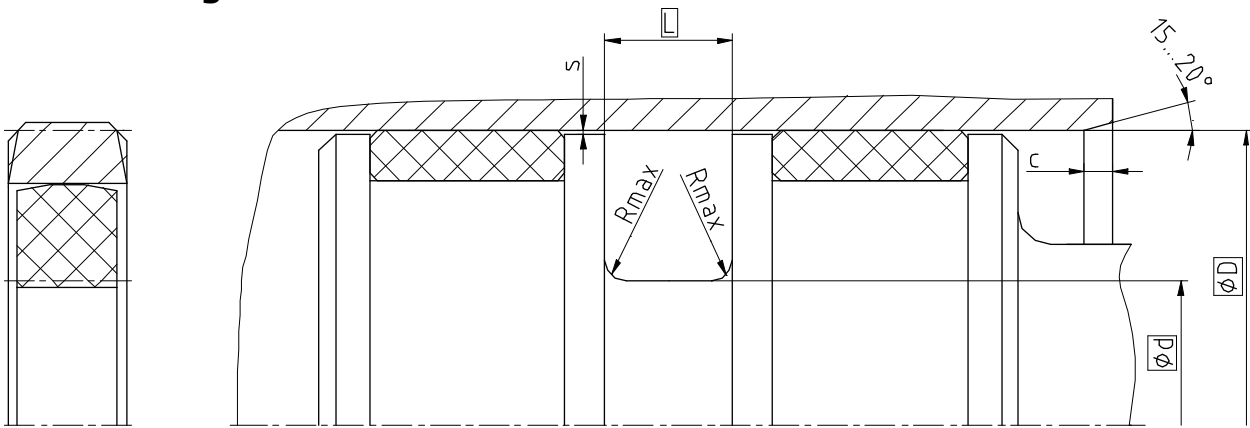
### Seal housing

K08-DS

X-Slide



2008-09



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					100 bar	200 bar	400 bar	600 bar
≥ 15 ... < 50	D - 10	5,0	0,3	4,0	0,50	0,40	0,30	0,20
≥ 50 ... < 60	D - 15	7,5	0,4	5,0	0,50	0,40	0,30	0,20
≥ 60 ... < 200	D - 20	10,0	0,4	6,0	0,70	0,50	0,40	0,20
≥ 200 ... < 300	D - 25	12,5	0,4	8,5	0,80	0,60	0,50	0,30
≥ 300 ... < 530	D - 30	15,0	0,8	10,0	0,90	0,70	0,60	0,30
≥ 530 ... < 680	D - 35	17,5	1,2	13,0	1,00	0,80	0,70	0,30
≥ 680 ... ≤ 1500	D - 40	20,0	1,2	15,0	1,10	0,90	0,80	0,40

\* The extrusion gap referred to is valid up to 80 °C and valid for the side opposite to the pressure side; higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
<b>X-ECOPUR™</b> XH-ECOPUR™ XS-ECOPUR™ G-ECOPUR 54D™	<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	<b>5 m/s</b>	<b>600 bar (60 MPa)</b>
	SKF ECOSIL	-60 °C...+100 °C		
SKF ECOWEAR 1000	SKF ECORUBBER-1	-30 °C...+80 °C		400 bar (40 MPa)
	SKF ECOSIL	-60 °C...+80 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup>Pressure ratings depend on the size of the extrusion gap.

### Ordering example

X-Slide K08-DS, D=100mm, d=80mm, L=10mm, X-ECOPUR™ / SKF ECORUBBER-1

**X-Slide K08-DS**  
Profile

**100 x 80 x 10**  
D x d x L

**X-ECOPUR™ / SKF ECORUBBER-1**  
Sealing material / Energizer

# Seal data sheet

## Piston seals

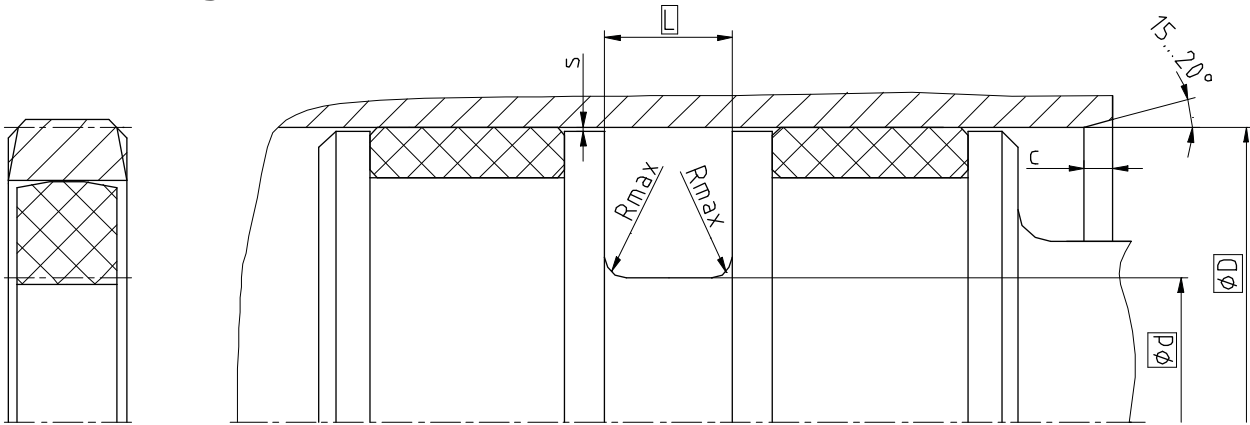
### Seal housing

K08-DS

F-Slide



2008-09



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					100 bar	200 bar	400 bar	600 bar
≥ 15 ... < 50	D - 10	5,0	0,3	4,0	0,40	0,30	0,20	0,10
≥ 50 ... < 60	D - 15	7,5	0,4	5,0	0,50	0,30	0,20	0,10
≥ 60 ... < 200	D - 20	10,0	0,4	6,0	0,60	0,40	0,25	0,15
≥ 200 ... < 300	D - 25	12,5	0,4	8,5	0,60	0,40	0,25	0,15
≥ 300 ... < 530	D - 30	15,0	0,8	10,0	0,70	0,50	0,30	0,20
≥ 530 ... < 680	D - 35	17,5	1,2	13,0	0,80	0,60	0,50	0,20
≥ 680 ... ≤ 1500	D - 40	20,0	1,2	15,0	1,00	0,70	0,60	0,30

\* The extrusion gap referred to is valid up to 80 °C and valid for the side opposite to the pressure side; higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOFLON 2 SKF ECOFLON 3 <b>SKF ECOFLON 3F</b> SKF ECOFLON 4	<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	<b>10 m/s</b>	<b>600 bar (60 MPa)</b>
	SKF ECORUBBER-2	-20 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

F-Slide K08-DS, D=100mm, d=80mm, L=10mm, SKF ECOFLON 3F / SKF ECORUBBER-1

**F-Slide K08-DS**

Profile

**100 x 80 x 10**

D x d x L

**SKF ECOFLON 3F / SKF ECORUBBER-1**

Sealing material / Energizer

# Seal data sheet

## Piston seals

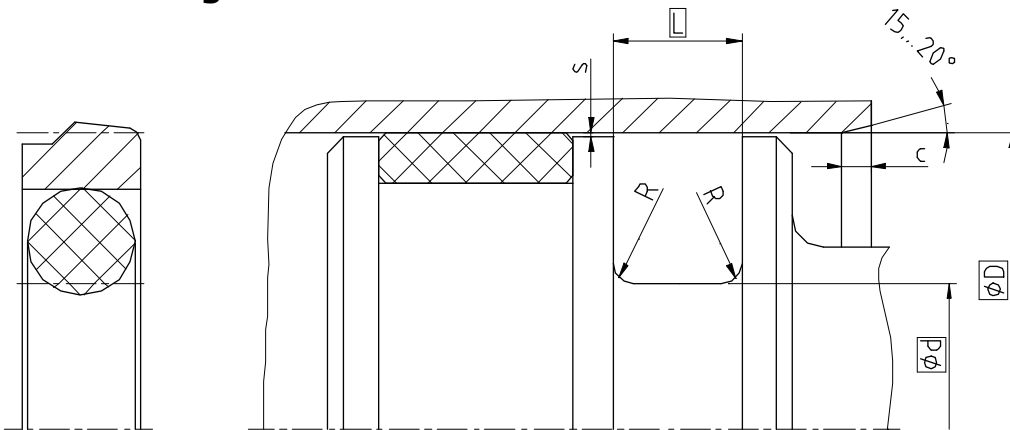
### Seal housing

K08-E

X-Slide



2008-09



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	R	c	ØOD	max. radial extrusion gap s*			
						100 bar	200 bar	400 bar	600 bar
≥ 10 ... < 15	D - 4,9	2,2	0,4	2,5	1,78	0,30	0,30	0,20	0,10
≥ 15 ... < 40	D - 7,5	3,2	0,6	3,5	2,62	0,40	0,30	0,20	0,10
≥ 40 ... < 80	D - 11	4,2	1,0	4,5	3,53	0,50	0,40	0,30	0,20
≥ 80 ... < 133	D - 15,5	6,3	1,3	5,0	5,33	0,50	0,40	0,30	0,20
≥ 133 ... < 330	D - 21	8,1	1,8	6,0	7,00	0,70	0,50	0,40	0,20
≥ 330 ... < 670	D - 24,5	8,1	1,8	8,0	7,00	0,70	0,50	0,40	0,20
≥ 670 ... < 1000	D - 28	9,5	2,5	10,0	8,40	0,80	0,70	0,50	0,30
≥ 1000 ... ≤ 3000	D - 38	13,8	3,0	12,0	12,00	1,10	0,80	0,70	0,40

\* The extrusion gap referred to is valid up to 80 °C and valid for the side opposite to the pressure side; higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
X-ECOPUR™ XH-ECOPUR™ XS-ECOPUR™ G-ECOPUR 54D™	NBR70	-30 °C...+100 °C	5 m/s	600 bar (60 MPa)
	MVQ70	-55 °C...+110 °C		
SKF ECOWEAR 1000	NBR70	-30 °C...+80 °C		400 bar (40 MPa)
	MVQ70	-55 °C...+80 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

X-Slide K08-E, D=100mm, d=84,9mm, L=6,3mm, X-ECOPUR™ / NBR70

**X-Slide K08-E**  
Profile

**100 x 84,9 x 6,3**  
D x d x L

**X-ECOPUR™ / NBR70**  
Sealing material / Energizer

# Seal data sheet

## Piston seals

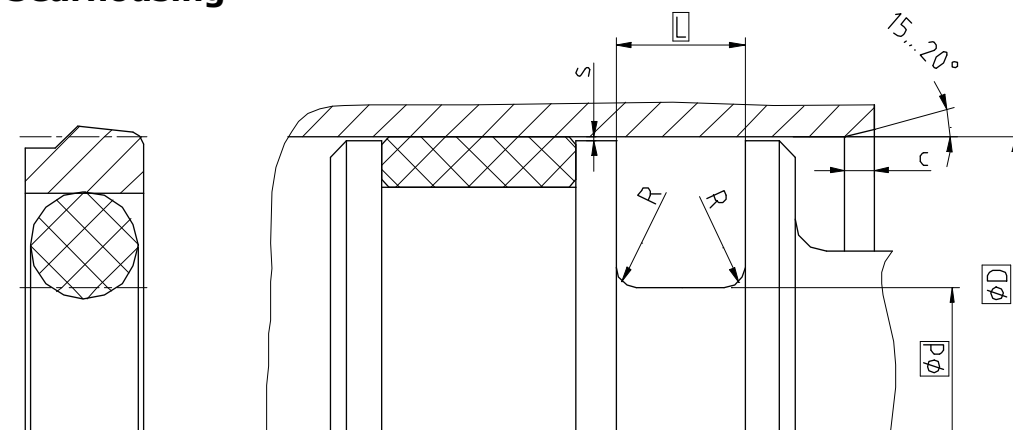
### Seal housing

K08-E

F-Slide



2008-09



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	R	c	ØOD	max. radial extrusion gap s*			
						100 bar	200 bar	400 bar	600 bar
≥ 10 ... < 15	D - 4,9	2,2	0,4	2,5	1,78	0,30	0,20	0,15	0,05
≥ 15 ... < 40	D - 7,5	3,2	0,6	3,5	2,62	0,40	0,25	0,15	0,05
≥ 40 ... < 80	D - 11	4,2	1,0	4,5	3,53	0,40	0,25	0,20	0,10
≥ 80 ... < 133	D - 15,5	6,3	1,3	5,0	5,33	0,50	0,30	0,20	0,10
≥ 133 ... < 330	D - 21	8,1	1,8	6,0	7,00	0,60	0,35	0,25	0,15
≥ 330 ... < 670	D - 24,5	8,1	1,8	8,0	7,00	0,60	0,35	0,25	0,15
≥ 670 ... < 1000	D - 28	9,5	2,5	10,0	8,40	0,70	0,50	0,30	0,20
≥ 1000 ... ≤ 3000	D - 38	13,8	3,0	12,0	12,00	1,00	0,70	0,60	0,30

\* The extrusion gap referred to is valid up to 80 °C and valid for the side opposite to the pressure side; higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOFLON 2 SKF ECOFLON 3 <b>SKF ECOFLON 3F</b> SKF ECOFLON 4	<b>NBR70</b>	<b>-30 °C...+100 °C</b>	<b>10 m/s</b>	<b>600 bar (60 MPa)</b>
	FKM70	-20 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

F-Slide K08-E, D=100mm, d=84,9mm, L=6,3mm, SKF ECOFLON 3F / NBR70

**F-Slide K08-E**  
Profile

**100 x 84,9 x 6,3**  
D x d x L

**SKF ECOFLON 3F / NBR70**  
Sealing material / Energizer

# Seal data sheet

## Piston seals

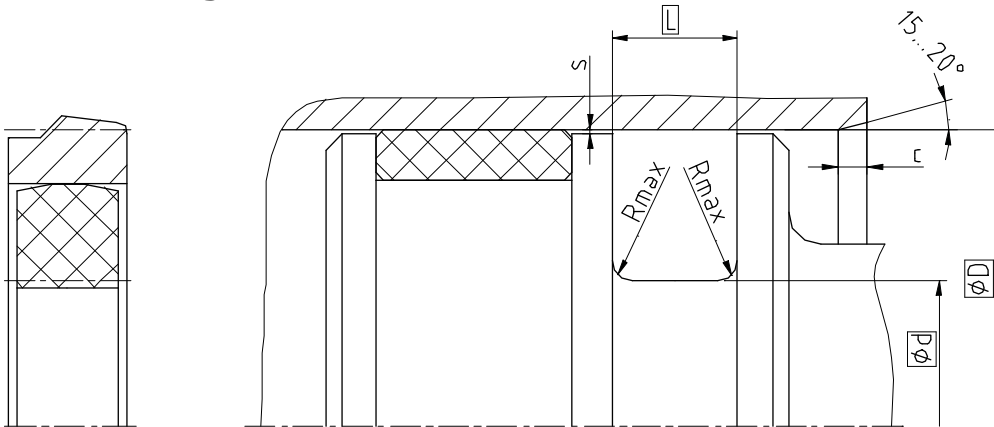
### Seal housing

K08-ES

X-Slide



2008-09



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 μm	0,1...0,5 μm
Bottom of groove	≤ 6,3 μm	≤ 1,6 μm
Groove face	≤ 15 μm	≤ 3 μm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					100 bar	200 bar	400 bar	600 bar
≥ 15 ... < 50	D - 10	5,0	0,3	4,0	0,50	0,40	0,30	0,20
≥ 50 ... < 60	D - 15	7,5	0,4	5,0	0,50	0,40	0,30	0,20
≥ 60 ... < 200	D - 20	10,0	0,4	6,0	0,70	0,50	0,40	0,20
≥ 200 ... < 300	D - 25	12,5	0,4	8,5	0,80	0,60	0,50	0,30
≥ 300 ... < 530	D - 30	15,0	0,8	10,0	0,90	0,70	0,60	0,30
≥ 530 ... < 680	D - 35	17,5	1,2	13,0	1,00	0,80	0,70	0,30
≥ 680 ... ≤ 1500	D - 40	20,0	1,2	15,0	1,10	0,90	0,80	0,40

\* The extrusion gap referred to is valid up to 80 °C and valid for the side opposite to the pressure side; higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
X-ECOPUR™ XH-ECOPUR™ XS-ECOPUR™ G-ECOPUR 54D™	SKF ECORUBBER-1	-30 °C...+100 °C	5 m/s	600 bar (60 MPa)
	SKF ECOSIL	-60 °C...+100 °C		
SKF ECOWEAR 1000	SKF ECORUBBER-1	-30 °C...+80 °C		400 bar (40 MPa)
	SKF ECOSIL	-55 °C...+80 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

X-Slide K08-ES, D=100mm, d=80mm, L=10mm, X-ECOPUR™ / SKF ECORUBBER-1

**X-Slide K08-ES**  
Profile

**100 x 80 x 10**  
D x d x L

**X-ECOPUR™ / SKF ECORUBBER-1**  
Sealing material / Energizer



# Seal data sheet

## Piston seals

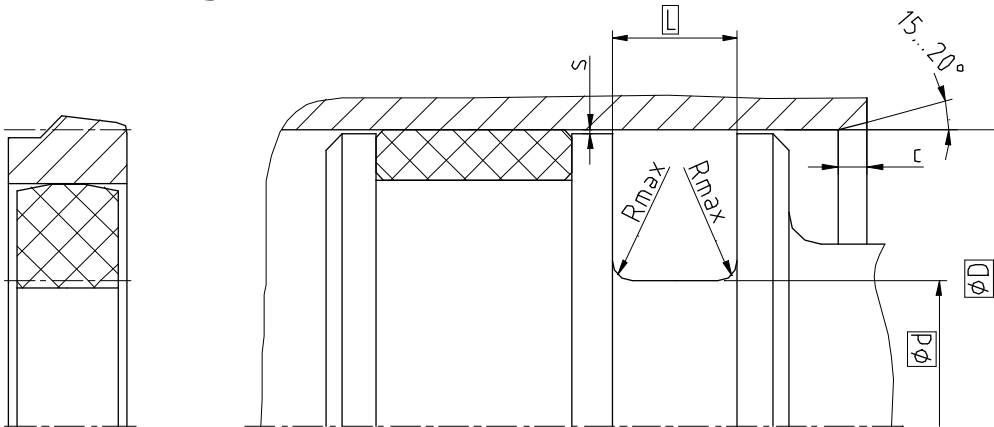
### Seal housing

K08-ES

F-Slide



2008-09



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 μm	0,05...0,3 μm
Bottom of groove	≤ 6,3 μm	≤ 1,6 μm
Groove face	≤ 15 μm	≤ 3 μm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					100 bar	200 bar	400 bar	600 bar
≥ 15 ... < 50	D - 10	5,0	0,3	4,0	0,40	0,30	0,20	0,10
≥ 50 ... < 60	D - 15	7,5	0,4	5,0	0,50	0,30	0,20	0,10
≥ 60 ... < 200	D - 20	10,0	0,4	6,0	0,60	0,40	0,25	0,15
≥ 200 ... < 300	D - 25	12,5	0,4	8,5	0,60	0,40	0,25	0,15
≥ 300 ... < 530	D - 30	15,0	0,8	10,0	0,70	0,50	0,30	0,20
≥ 530 ... < 680	D - 35	17,5	1,2	13,0	0,80	0,60	0,50	0,20
≥ 680 ... ≤ 1500	D - 40	20,0	1,2	15,0	1,00	0,70	0,60	0,30

\* The extrusion gap referred to is valid up to 80 °C and valid for the side opposite to the pressure side; higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOFLON 2 SKF ECOFLON 3 <b>SKF ECOFLON 3F</b> SKF ECOFLON 4	<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	<b>10 m/s</b>	<b>600 bar (60 MPa)</b>
	SKF ECORUBBER-2	-20 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

F-Slide K08-ES, D=100mm, d=80mm, L=10mm, SKF ECOFLON 3F / SKF ECORUBBER-1

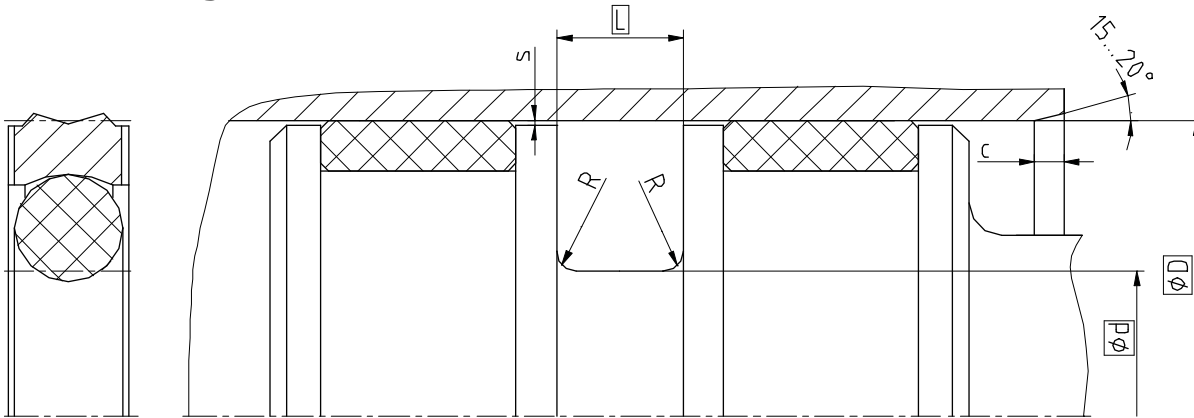
**F-Slide K08-ES**  
Profile

**100 x 80 x 10**  
D x d x L

**SKF ECOFLON 3F / SKF ECORUBBER-1**  
Sealing material / Energizer

### Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	R	c	ØOD	max. radial extrusion gap s*		
						20 bar	100 bar	250 bar
≥ 10 ... < 15	D - 4,9	2,2	0,4	2,5	1,78	0,35	0,22	0,13
≥ 15 ... < 40	D - 7,5	3,2	0,6	3,5	2,62	0,5	0,30	0,16
≥ 40 ... < 80	D - 11	4,2	1,0	4,5	3,53	0,6	0,34	0,18
≥ 80 ... < 133	D - 15,5	6,3	1,3	5,0	5,33	0,75	0,40	0,21
≥ 133 ... < 330	D - 21	8,1	1,8	6,0	7,00	0,85	0,45	0,24
≥ 330 ... < 600	D - 24,5	8,1	1,8	8,0	7,00	1,0	0,53	0,28

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>NBR70</b>	<b>-30 °C...+100 °C</b>	<b>1 m/s</b>	<b>250 bar (25 MPa)</b>
H-ECOPUR™		-20 °C...+110 °C		
S-ECOPUR™		-50 °C...+110 °C	1,4 m/s	
T-ECOPUR™	MVQ70		1 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

K08-P, D=100mm, d=84,5mm, L=6,3mm, ECOPUR® / NBR70

**Piston Seal K08-P**  
Profile

**100 x 84,5 x 6,3**  
D x d x L

**ECOPUR® / NBR70**  
Sealing material / Energizer

# Seal data sheet

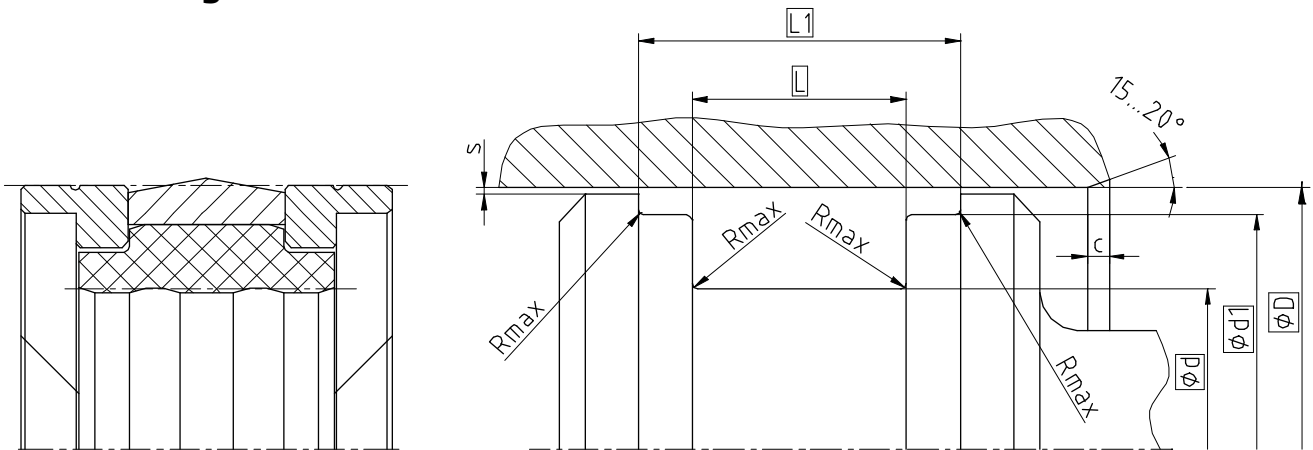
## Piston seals

### Seal housing

K09-N



2008-09



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 μm	0,1...0,5 μm
Bottom of groove	≤ 6,3 μm	≤ 1,6 μm
Groove face	≤ 15 μm	≤ 3 μm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h9	Ød1 h8	L +0,2	L1	Rmax	c	s*
≥ 20 ... < 50	D - 10	D - 3	12,5	20,5	0,4	4	0,35
≥ 50 ... < 80	D - 15	D - 4	20	28	0,4	5	0,52
≥ 80 ... < 150	D - 20	D - 5	25	36	0,4	6	0,65
≥ 150 ... < 400	D - 25	D - 6	32	46	0,4	8,5	0,78
≥ 400 ... < 600	D - 30	D - 8	36	50	0,4	10	1,00

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>SKF ECORUBBER-1</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>400 bar (40 MPa)</b>
H-ECOPUR™			-20 °C...+100 °C		
S-ECOPUR™			-40 °C...+100 °C		
T-ECOPUR™	SKF ECOSIL			0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

K09-N, D=100mm, d=80mm, d1=95 L=25mm, L1=36mm, ECOPUR® / SKF ECORUBBER-1 / SKF ECOTAL

**Piston Seal K09-N 100 x 80/95 x 25/36 ECOPUR® / SKF ECORUBBER-1 / SKF ECOTAL**

Profile

D x d/d1 x L/L1

Sealing material / Energizer / Backup ring

# Seal data sheet

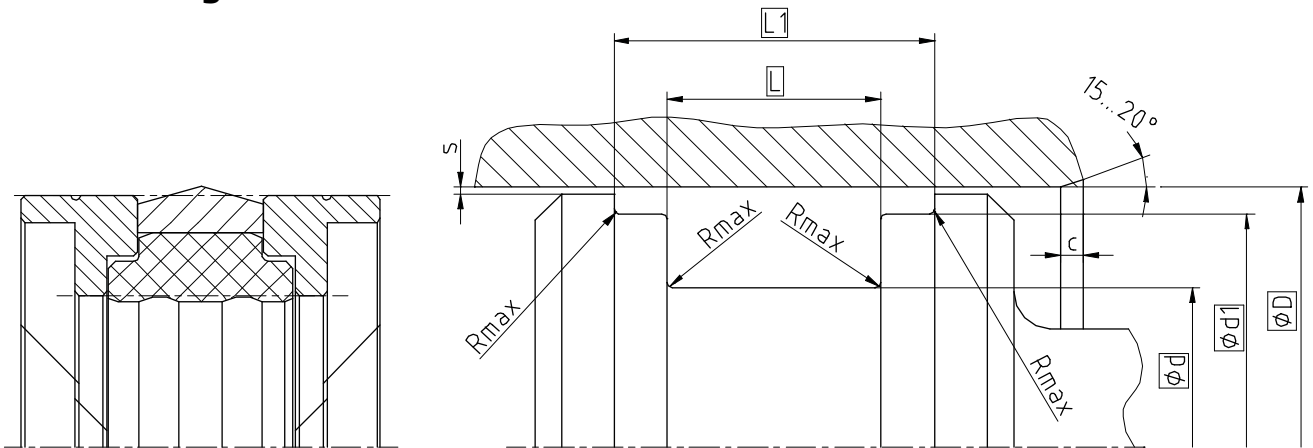
## Piston seals

### Seal housing

K09-H



2008-09



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h9	Ød1 h8	L +0,2	L1	Rmax	c	s*
≥ 20 ... < 50	D - 10	D - 3	12,5	20,5	0,4	4	0,4
≥ 50 ... < 80	D - 15	D - 4	20	28	0,4	5	
≥ 80 ... < 150	D - 20	D - 5	25	36	0,4	6	
≥ 150 ... < 400	D - 25	D - 6	32	46	0,4	8,5	
≥ 400 ... < 600	D - 30	D - 8	36	50	0,4	10	

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>SKF ECORUBBER-1</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	-30 °C...+100 °C	<b>0,3 m/s</b>	<b>1500 bar</b> <b>(150 MPa)</b>
H-ECOPUR™			-20 °C...+100 °C		
S-ECOPUR™				0,4 m/s	
T-ECOPUR™	SKF ECOSIL		-40 °C...+100 °C	0,3 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

K09-H, D=100mm, d=80mm, d1=95, L=25mm, L1=36mm, ECOPUR® / SKF ECORUBBER-1 / SKF ECOTAL

**Piston Seal K09-D 100 x 80/95 x 25/36 ECOPUR® / SKF ECORUBBER-1 / SKF ECOTAL**  
 Profile D x d/d1 x L/L1 Sealing material / Energizer / Backup ring

# Seal data sheet

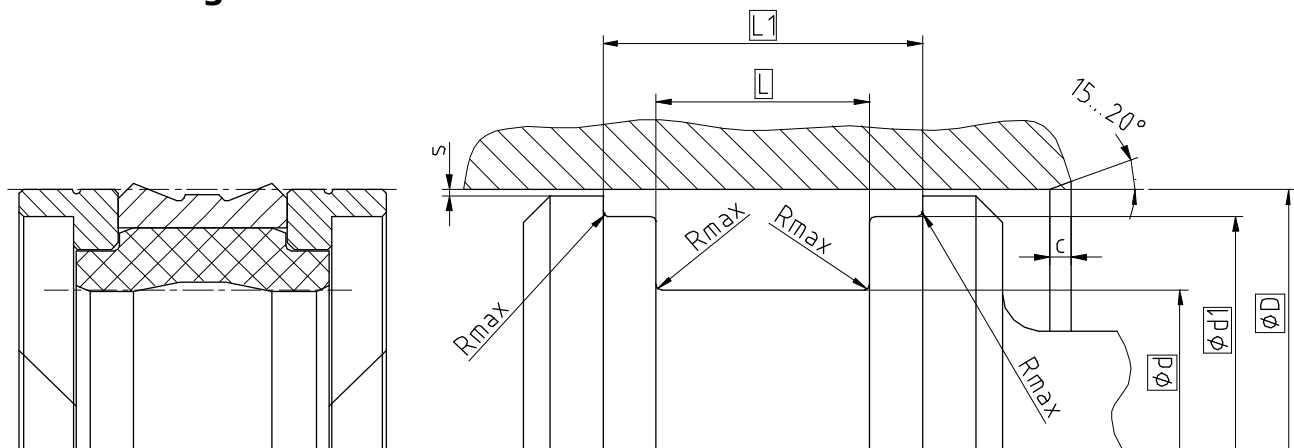
## Piston seals

### Seal housing

K09-D



2008-09



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h9	Ød1 h8	L +0,2	L1	Rmax	c	s*
≥ 20 ... < 50	D - 10	D - 3	12,5	20,5	0,4	4	0,35
≥ 50 ... < 80	D - 15	D - 4	20	28	0,4	5	0,52
≥ 80 ... < 150	D - 20	D - 5	25	36	0,4	6	0,65
≥ 150 ... < 400	D - 25	D - 6	32	46	0,4	8,5	0,78
≥ 400 ... < 600	D - 30	D - 8	36	50	0,4	10	1,00

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>SKF ECORUBBER-1</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	-30 °C...+100 °C	<b>0,5 m/s</b>	<b>400 bar (40 MPa)</b>
H-ECOPUR™			-20 °C...+100 °C		
S-ECOPUR™				0,7 m/s	
T-ECOPUR™	SKF ECOSIL		-40 °C...+100 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

K09-D, D=100mm, d=80mm, d1=95, L=25mm, L1=36mm, ECOPUR® / SKF ECORUBBER-1 / SKF ECOTAL

**Piston Seal K09-D**

Profile

**100 x 80/95 x 25/36**

D x d/d1 x L/L1

**ECOPUR® / SKF ECORUBBER-1 / SKF ECOTAL**

Sealing material / Energizer / Backup ring

# Seal data sheet

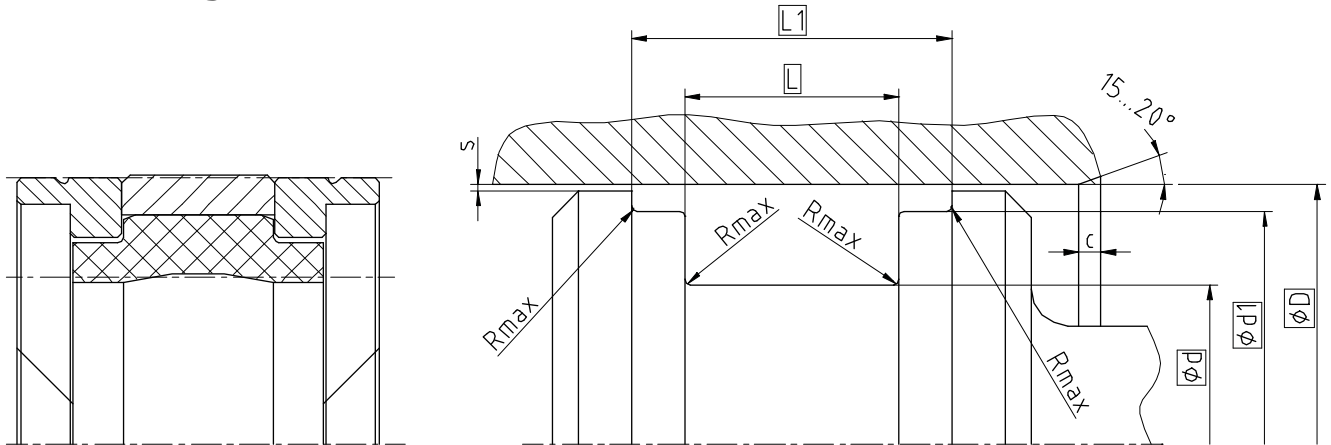
## Piston seals

K09-F



2008-09

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

ØD H9	Ød h9	Ød1 h8	L +0,2	L1	Rmax	c	s*
≥ 20 ... < 50	D - 10	D - 3	12,5	20,5	0,4	4	0,35
≥ 50 ... < 80	D - 15	D - 4	20	28	0,4	5	0,50
≥ 80 ... < 150	D - 20	D - 5	25	36	0,4	6	0,65
≥ 150 ... < 400	D - 25	D - 6	32	46	0,4	8,5	0,78
≥ 400 ... ≤ 650	D - 30	D - 8	36	50	0,4	10	1,00

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

## Operating parameters

Sealing material	Energizer	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
X-ECOPUR™	SKF ECORUBBER-1	SKF ECOTAL SKF ECOMID <sup>2</sup>	-30 °C...+100 °C	1 m/s	400 bar (40 Mpa)
XH-ECOPUR™				1,2 m/s	
XS-ECOPUR™					
SKF ECOFLON 2 SKF ECOFLON 3 SKF ECOFLON 4	SKF ECORUBBER-1	SKF ECOTAL SKF ECOMID <sup>2</sup>	-30 °C...+100 °C	1,5 m/s	400 bar (40 Mpa)
	SKF ECORUBBER-2	SKF ECOPAEK	-20 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

## Ordering example

K09-F, D=100mm, d=80mm, d1=95 L=25mm, L1=36, SKF ECOFLON 3 / SKF ECORUBBER-1 / SKF ECOTAL

**Piston Seal K09-F 100 x 80/95 x 25/36 SKF ECOFLON 3 / SKF ECORUBBER-1 / SKF ECOTAL**  
 Profile D x d/d1 x L/L1 Sealing material / Energizer / Backup ring

# Seal data sheet

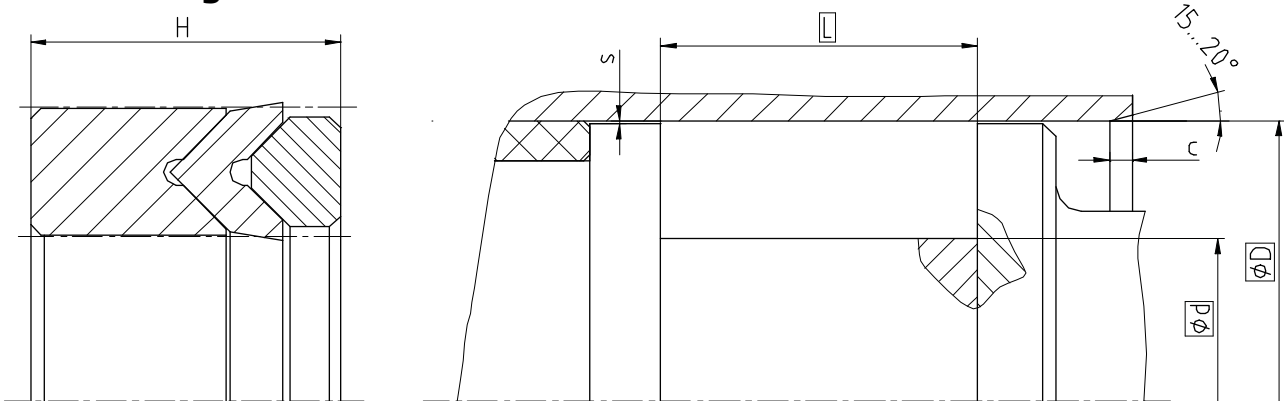
## Piston seals

K1012-M



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	s*
- ... < 40	D - 10	9,5	0,4	4,0	0,25
≥ 40 ... < 75	D - 15	12,3	0,4	5,0	0,37
≥ 75 ... < 150	D - 20	21,2	0,4	6,0	0,50
≥ 150 ... < 200	D - 25	25,8	0,4	8,5	0,62
≥ 200 ... < 300	D - 30	33,5	0,4	10,0	0,75
≥ 300	D - 40	41,5	0,4	13,0	1,00

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Backup ring K10-A	Chevron K11-T	Pressure ring K12-T	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOTAL SKF ECOMID <sup>2</sup>	ECOPUR <sup>®</sup>	X-ECOPUR <sup>™</sup>	-30 °C...+100 °C	0,5 m/s	500 bar (50 MPa)
	H-ECOPUR <sup>™</sup>	XH-ECOPUR <sup>™</sup>	-20 °C...+100 °C	0,5 m/s	
	S-ECOPUR <sup>™</sup>	XS-ECOPUR <sup>™</sup>	-30 °C...+100 °C	0,7 m/s	
	G-ECOPUR <sup>™</sup>	G-ECOPUR 54D <sup>™</sup>	-30 °C...+100 °C	0,5 m/s	
SKF ECOTAL SKF ECOMID <sup>2</sup>	ECOPUR <sup>®</sup>	SKF ECOTAL SKF ECOMID <sup>2</sup>	-30 °C...+100 °C	0,5 m/s	500 bar (50 MPa)
	H-ECOPUR <sup>™</sup>		-20 °C...+100 °C	0,5 m/s	
	S-ECOPUR <sup>™</sup>		-30 °C...+100 °C	0,7 m/s	
	G-ECOPUR <sup>™</sup>		-30 °C...+100 °C	0,5 m/s	
SKF ECOFLON 2	SKF ECORUBBER-1	SKF ECOFLON 2	-30 °C...+100 °C	0,5 m/s	250 bar (25 MPa)
	SKF ECORUBBER-2		-20 °C...+200 °C	0,5 m/s	
	SKF ECORUBBER-3		-50 °C...+150 °C	0,5 m/s	
	SKF ECORUBBER-H		-25 °C...+150 °C	0,5 m/s	
	SKF ECOFLAS		-10 °C...+200 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

K1012-M, D=100mm, d=80mm, L=21,2mm, SKF ECOTAL / ECOPUR<sup>®</sup> / X-ECOPUR<sup>™</sup>

**Piston Seal K1012-M**

Profile

**100 x 80 x 21,2**

D x d x L

**SKF ECOTAL / ECOPUR<sup>®</sup> / X-ECOPUR<sup>™</sup>**

Backup ring / Chevron / Pressure ring

**ECONOMOS**

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# Seal data sheet

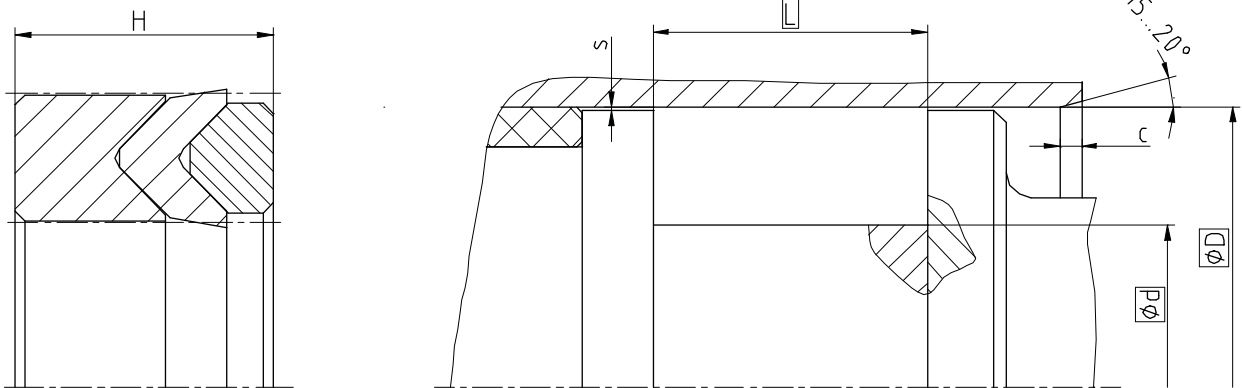
## Piston seals

K1012-T



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	s*
- ... < 40	D - 10	9,5	0,4	4,0	0,25
≥ 40 ... < 75	D - 15	12,3	0,4	5,0	0,37
≥ 75 ... < 150	D - 20	21,2	0,4	6,0	0,50
≥ 150 ... < 200	D - 25	25,8	0,4	8,5	0,62
≥ 200 ... < 300	D - 30	33,5	0,4	10,0	0,75
≥ 300	D - 40	41,5	0,4	13,0	1,00

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Backup ring K10-A	Chevron K11-T	Pressure ring K12-T	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOTAL SKF ECOMID <sup>2</sup>	ECOPUR <sup>®</sup>	X-ECOPUR <sup>™</sup>	-30 °C...+100 °C	0,5 m/s	500 bar (50 MPa)
	H-ECOPUR <sup>™</sup>	XH-ECOPUR <sup>™</sup>	-20 °C...+100 °C	0,5 m/s	
	S-ECOPUR <sup>™</sup>	XS-ECOPUR <sup>™</sup>	-30 °C...+100 °C	0,7 m/s	
	G-ECOPUR <sup>™</sup>	G-ECOPUR 54D <sup>™</sup>	-30 °C...+100 °C	0,5 m/s	
SKF ECOTAL SKF ECOMID <sup>2</sup>	ECOPUR <sup>®</sup>	SKF ECOTAL SKF ECOMID <sup>2</sup>	-30 °C...+100 °C	0,5 m/s	500 bar (50 MPa)
	H-ECOPUR <sup>™</sup>		-20 °C...+100 °C	0,5 m/s	
	S-ECOPUR <sup>™</sup>		-30 °C...+100 °C	0,7 m/s	
	G-ECOPUR <sup>™</sup>		-30 °C...+100 °C	0,5 m/s	
SKF ECOFLON 2	SKF ECORUBBER-1	SKF ECOFLON 2	-30 °C...+100 °C	0,5 m/s	250 bar (25 MPa)
	SKF ECORUBBER-2		-20 °C...+200 °C	0,5 m/s	
	SKF ECORUBBER-3		-50 °C...+150 °C	0,5 m/s	
	SKF ECORUBBER-H		-25 °C...+150 °C	0,5 m/s	
	SKF ECOFLAS		-10 °C...+200 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

K1012-T, D=100mm, d=80mm, L=21,2mm, SKF ECOTAL / ECOPUR<sup>®</sup> / X-ECOPUR<sup>™</sup>

**Piston Seal K1012-T**

Profile

**100 x 80 x 21,2**

D x d x L

**SKF ECOTAL / ECOPUR<sup>®</sup> / X-ECOPUR<sup>™</sup>**

Backup ring / Chevron / Pressure ring

**ECONOMOS**

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# Seal data sheet

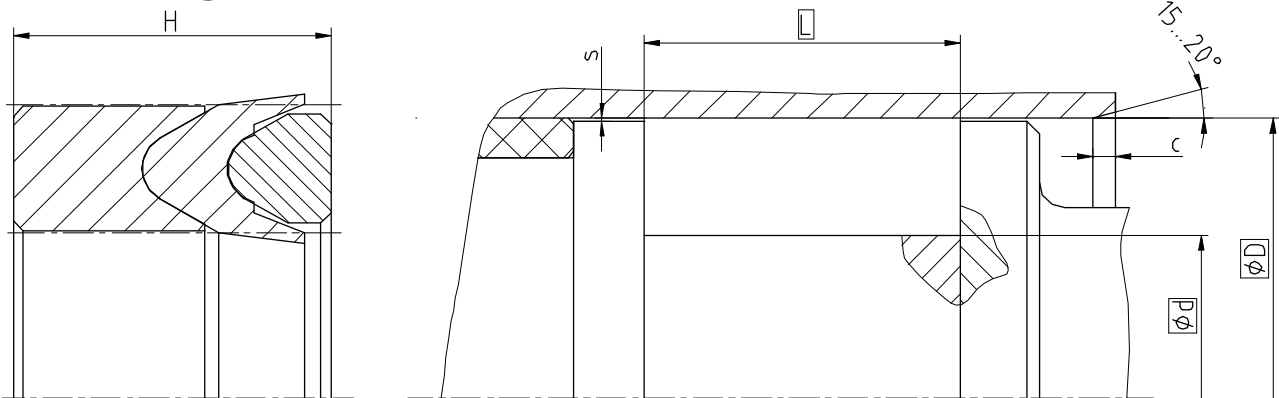
## Piston seals

K1315-T



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	s*
- ... < 40	D - 10	12,0	0,4	4,0	0,25
≥ 40 ... < 75	D - 15	18,2	0,4	5,0	0,37
≥ 75 ... < 150	D - 20	23,2	0,4	6,0	0,50
≥ 150 ... < 200	D - 25	28,8	0,4	8,5	0,62
≥ 200 ... < 300	D - 30	35,7	0,4	10,0	0,75
≥ 300	D - 40	43,2	0,4	13,0	1,00

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Backup ring K13-T	Chevron K14-T	Pressure ring K15-T	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOTAL SKF ECOMID <sup>2</sup>	ECOPUR <sup>®</sup>	X-ECOPUR <sup>™</sup> XH-ECOPUR <sup>™</sup> XS-ECOPUR <sup>™</sup> G-ECOPUR 54D <sup>™</sup>	-30 °C...+110 °C	0,5 m/s	600 bar (60 MPa)
	H-ECOPUR <sup>™</sup>		-20 °C...+110 °C	0,7 m/s	
	S-ECOPUR <sup>™</sup>		-30 °C...+110 °C		
	T-ECOPUR <sup>™</sup>		-40 °C...+110 °C	0,5 m/s	
	G-ECOPUR <sup>™</sup>		-30 °C...+110 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

K1315-T, D=100mm, d=80mm, L=23,8mm, SKF ECOTAL / ECOPUR<sup>®</sup> / X-ECOPUR<sup>™</sup>

**Piston Seal K1315-T**

Profile

**100 x 80 x 23,8**

D x d x L

**SKF ECOTAL / ECOPUR<sup>®</sup> / X-ECOPUR<sup>™</sup>**

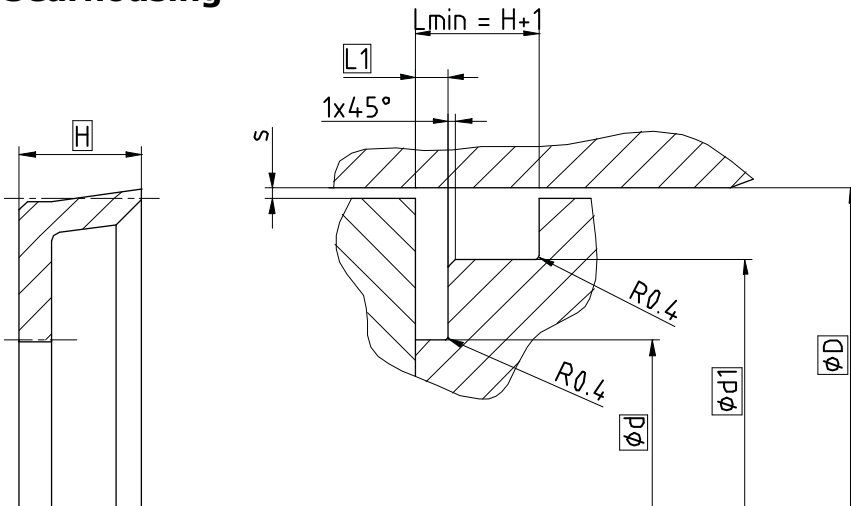
Backup ring / Chevron / Pressure ring

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### Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 μm	0,1...0,5 μm
Bottom of groove	≤ 6,3 μm	≤ 1,6 μm
Groove face	≤ 15 μm	≤ 3 μm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

This is not a standard profile and serves as a replacement for an existing housing. New constructions should use standard profiles.

### Operating parameters

Sealing material	Temperature	max. speed		max. pressure	
		linear	rotary	linear <sup>1</sup>	rotary
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>0,5 m/s</b>	<b>2 m/s</b>	<b>160 bar (16 MPa)</b>	<b>7 bar (0,7 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C				
S-ECOPUR™	-20 °C...+110 °C				
T-ECOPUR™	-50 °C...+110 °C				
G-ECOPUR™	-30 °C...+110 °C	0,5 m/s	5 m/s	160 bar (16 MPa)	5 bar (0,5 MPa)
SKF ECORUBBER-1	-30 °C...+100 °C				
SKF ECORUBBER-2	-20 °C...+200 °C				
SKF ECORUBBER-3	-50 °C...+150 °C				
SKF ECORUBBER-H	-25 °C...+150 °C				
SKF ECOFLAS	-10 °C...+200 °C				

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

K16-A, D=58mm, d=50mm, d1=53mm, L1=3mm, H=12mm, ECOPUR®

**Piston Seal K16-A**  
Profile

**58 x 50/53 x 3/12**  
D x d/d1 x L1/H

**ECOPUR®**  
Sealing material

# Seal data sheet

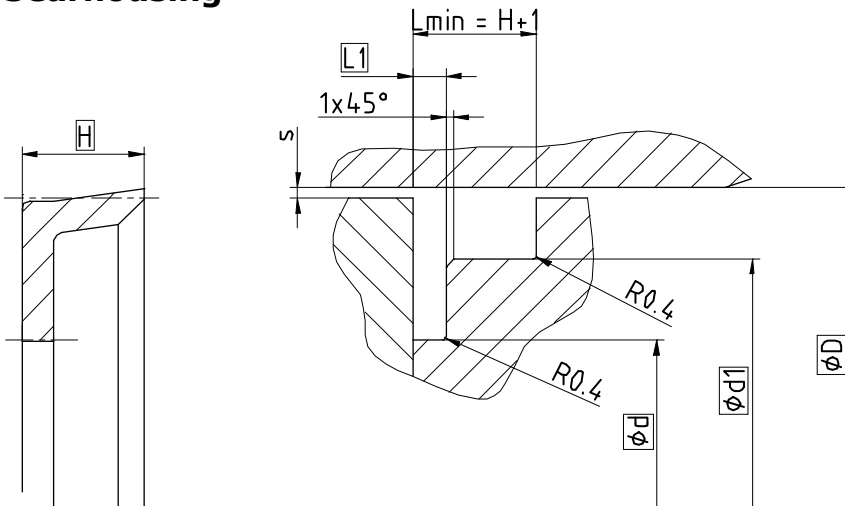
K16-B



2008-09

## Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 μm	0,1...0,5 μm
Bottom of groove	≤ 6,3 μm	≤ 1,6 μm
Groove face	≤ 15 μm	≤ 3 μm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

This is not a standard profile and serves as a replacement for an existing housing. New constructions should use standard profiles.

### Operating parameters

Sealing material	Temperature	max. speed		max. pressure	
		linear	rotary	linear <sup>1</sup>	rotary
<b>ECOPUR<sup>®</sup></b>	<b>-30 °C...+110 °C</b>	<b>0,5 m/s</b>	<b>2 m/s</b>	<b>160 bar (16 MPa)</b>	<b>7 bar (0,7 MPa)</b>
H-ECOPUR <sup>™</sup>	-20 °C...+110 °C				
S-ECOPUR <sup>™</sup>	-20 °C...+110 °C				
T-ECOPUR <sup>™</sup>	-50 °C...+110 °C				
G-ECOPUR <sup>™</sup>	-30 °C...+110 °C	0,5 m/s			
SKF ECORUBBER-1	-30 °C...+100 °C	0,5 m/s	5 m/s	160 bar (16 MPa)	5 bar (0,5 MPa)
SKF ECORUBBER-2	-25 °C...+150 °C				
SKF ECORUBBER-3	-20 °C...+200 °C				
SKF ECORUBBER-H	-50 °C...+150 °C				
SKF ECOFLAS	-10 °C...+200 °C				

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

K16-B, D=58mm, d=50mm, d1=53mm, L1=3mm, H=12mm, ECOPUR<sup>®</sup>

**Piston Seal K16-B**  
Profile

**58 x 50/53 x 3/12**  
D x d/d1 x L1/H

**ECOPUR<sup>®</sup>**  
Sealing material

# Seal data sheet

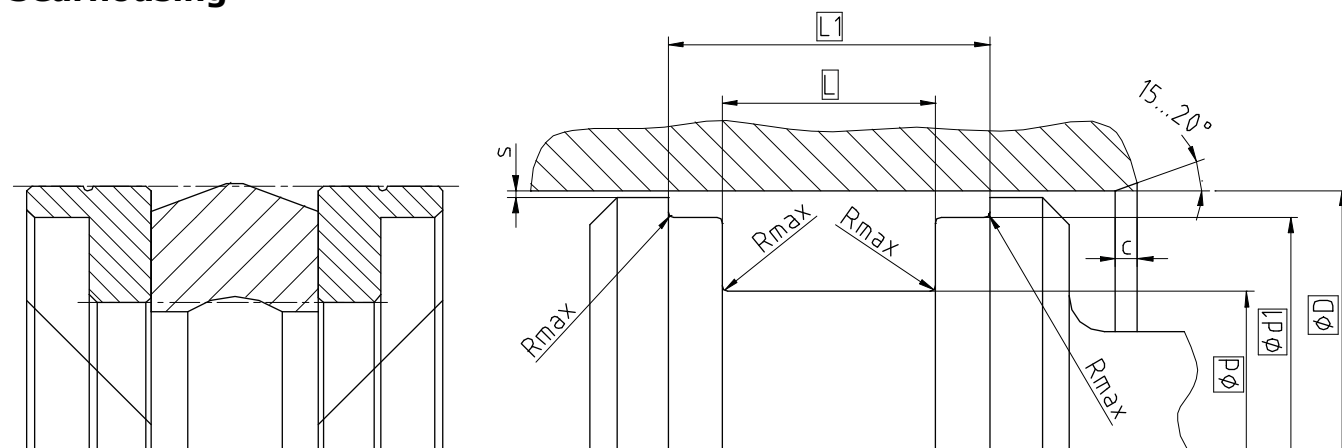
## Piston seals

K17-P



2008-09

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	$\leq 2,5 \mu\text{m}$	0,1...0,5 $\mu\text{m}$
Bottom of groove	$\leq 6,3 \mu\text{m}$	$\leq 1,6 \mu\text{m}$
Groove face	$\leq 15 \mu\text{m}$	$\leq 3 \mu\text{m}$

Ordering dimensions...

Bearing area: 50...95% and a cutting depth of  $0,5 \times R_z$  based on  $C_{ref} = 0\%$

## Standard dimensions

$\varnothing D$ H9	$\varnothing d$ h9	$\varnothing d_1$ h8	$L$ +0,2	$L_1$	$R_{max}$	$c$	$s^*$
$\geq 13 \dots < 40$	D - 8	D - 3	10	18	0,4	4	0,35
$\geq 40 \dots < 80$	D - 10	D - 3	10	18	0,4	4	0,40
$\geq 80 \dots < 120$	D - 15	D - 4	15	23	0,4	5	0,50
$\geq 120 \dots < 200$	D - 20	D - 5	20	33	0,4	6	0,65
$\geq 200 \dots < 400$	D - 25	D - 6	25	39	0,4	8,5	0,75
$\geq 400 \dots < 600$	D - 30	D - 8	30	44	0,4	10	1,00

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

## Operating parameters

Sealing material	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR<sup>®</sup></b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>250 bar (25 MPa)</b>
H-ECOPUR <sup>™</sup>		-20 °C...+100 °C		
S-ECOPUR <sup>™</sup>		-40 °C...+100 °C	0,7 m/s	
T-ECOPUR <sup>™</sup>			0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup>  $\leq \varnothing 260\text{mm}$ : SKF ECOTAL ;  $> \varnothing 260\text{mm}$ : SKF ECOMID

## Ordering example

K17-P, D=100mm, d=85mm, d1=96, L=15mm, L1=23mm, ECOPUR<sup>®</sup> / SKF ECOTAL

**Piston Seal K09-D**

Profile

**100 x 85/96 x 15/23**

D x d/d1 x L/L1

**ECOPUR<sup>®</sup> / SKF ECOTAL**

Sealing material / Backup ring

**ECONOMOS**

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# Seal data sheet

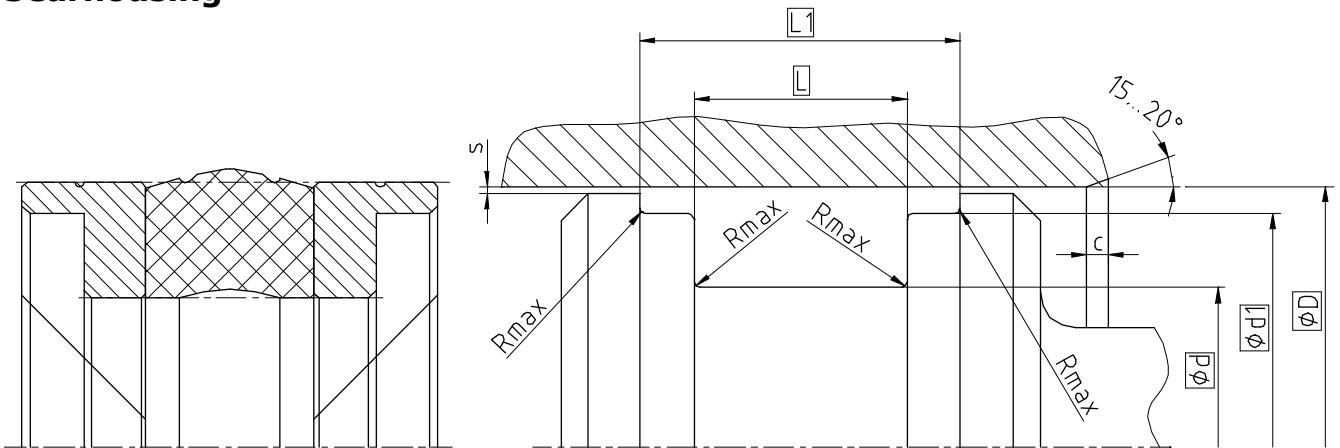
## Piston seals

### Seal housing

K17-R



2008-09



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h9	Ød1 h8	L +0,2	L1	Rmax	c	s*
≥ 13 ... < 40	D - 8	D - 3	10	18	0,4	4	0,39
≥ 40 ... < 80	D - 10	D - 3	10	18	0,4	4	0,39
≥ 80 ... < 120	D - 15	D - 4	15	23	0,4	5	0,52
≥ 120 ... < 200	D - 20	D - 5	20	33	0,4	6	0,65
≥ 200 ... < 400	D - 25	D - 6	25	39	0,4	8,5	0,78
≥ 400 ... < 600	D - 30	D - 8	30	44	0,4	10	1,00

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECORUBBER-1</b>	<b>SKF ECOTAL</b>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>250 bar (25 MPa)</b>
SKF ECORUBBER-H	SKF ECOMID <sup>2</sup>	-25 °C...+100 °C		
SKF ECORUBBER-2	SKF ECOPAEK	-20 °C...+200 °C		
SKF ECORUBBER-H	SKF ECOFLON 2	-25 °C...+150 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

K17-R, D=100mm, d=85mm, d1=96, L=15mm, L1=23mm, SKF ECORUBBER-1 / SKF ECOTAL

**Piston Seal K17-R**  
Profile

**100 x 85/96 x 15/23**  
D x d/d1 x L/L1

**SKF ECORUBBER-1 / SKF ECOTAL**  
Sealing material / Backup ring

# Seal data sheet

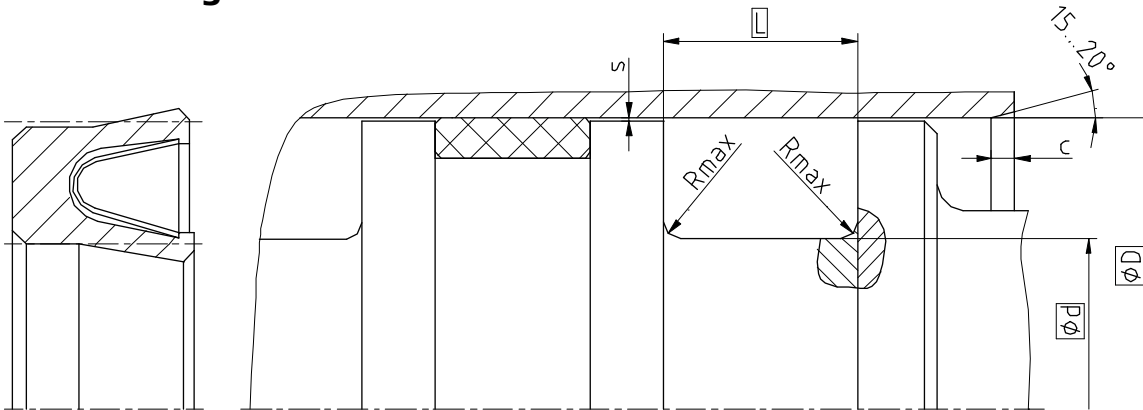
K19-F



2008-09

## Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*				
					20 bar	100 bar	200 bar	300 bar	400 bar
≥ 10 ... < 18	D - 4,5	3,6	0,3	1,13	0,25	0,12	0,10	0,08	0,07
≥ 18 ... < 50	D - 6,2	4,8	0,3	1,55	0,35	0,17	0,12	0,1	0,08
≥ 50 ... < 120	D - 9,4	7,1	0,3	2,35	0,45	0,22	0,17	0,12	0,1
≥ 120 ... < 630	D - 12,2	9,5	0,3	3,05	0,6	0,31	0,25	0,15	0,12
≥ 630 ... < 1600	D - 19	15	0,3	4,75	0,87	0,48	0,38	0,28	0,2

\* Extrusion gap applies to a temperature of 80 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Spring	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOFLON 1	<b>1.4310</b>	<b>-200 °C...+260 °C</b>	<b>15 m/s</b>	200 bar (20 MPa)
SKF ECOFLON 2 <b>SKF ECOFLON 3</b> SKF ECOFLON 4				<b>400 bar (40 MPa)</b>
SKF ECOWEAR 1000		<b>-200 °C...+80 °C</b>		200 bar (20 MPa)

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

K19-F, D=100mm, d=90,6mm, L=7,1mm, SKF ECOFLON 3 / 1.4310

**Piston Seal K19-F**  
Profile

**100 x 90,6 x 7,1**  
D x d x L

**SKF ECOFLON 3 / 1.4310**  
Sealing material / Spring

# Seal data sheet

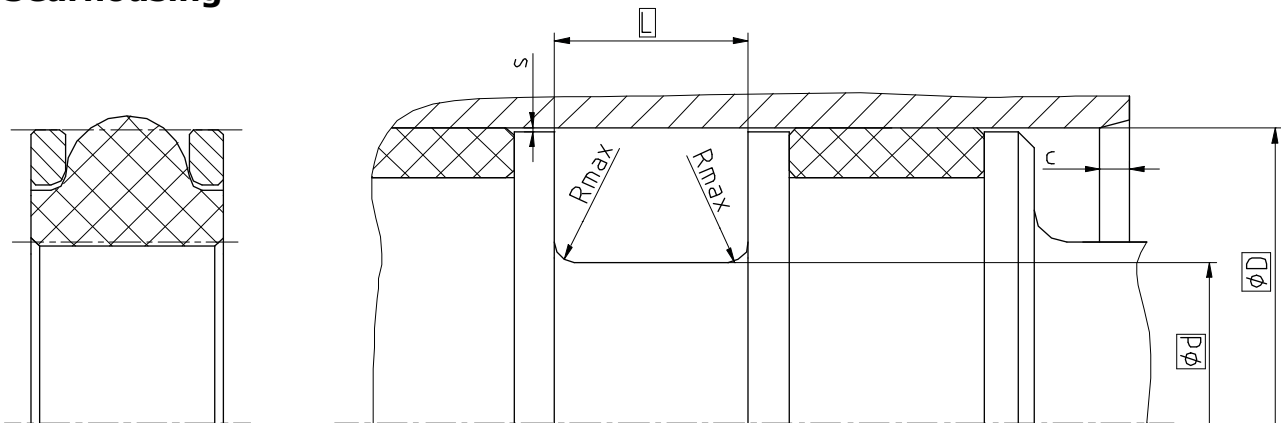
## Piston seals

### Seal housing

K20-R



2008-09



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9		Ød h9	L +0,25	Rmax <sup>1</sup>	c	s*
static	dynamic					
≥ 8 ... < 100	-	D - 2,70	4,5	0,2 0,4	2	H9/f8
≥ 100 ... < 150	≥ 8 ... < 20	D - 4,36	6,5		2	
≥ 150 ... < 250	≥ 20 ... < 40	D - 6,00	7,4		3	
≥ 250 ... < 400	≥ 40 ... < 100	D - 9,06	10,1		3,5	
≥ 400 ... < 600	≥ 100 ... < 300	D - 11,88	12,8		4,5	
≥ 600 ...	≥ 300 ... ≤ 600	D - 17,00	17,5		5	

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

<sup>1</sup> Ød ≤ 40mm: 0,2 ; > 40mm: 0,4

### Operating parameters

Sealing material	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECORUBBER-1</b>	<b>SKF ECOTAL</b>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>700 bar (70 Mpa)</b>
SKF ECORUBBER-H	SKF ECOMID <sup>2</sup>	-25 °C...+100 °C		
SKF ECORUBBER-2	SKF ECOPAЕК	-20 °C...+200 °C		
SKF ECORUBBER-H	SKF ECOFLON 2	-25 °C...+150 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

K20-R, D=100mm, d=95,64mm, L=6,5mm, SKF ECORUBBER-1 / SKF ECOTAL

**Piston Seal K20-R**  
Profile

**100 x 95,64 x 6,5**  
D x d x L

**SKF ECORUBBER-1 / SKF ECOTAL**  
Sealing material / Backup ring

# Seal data sheet

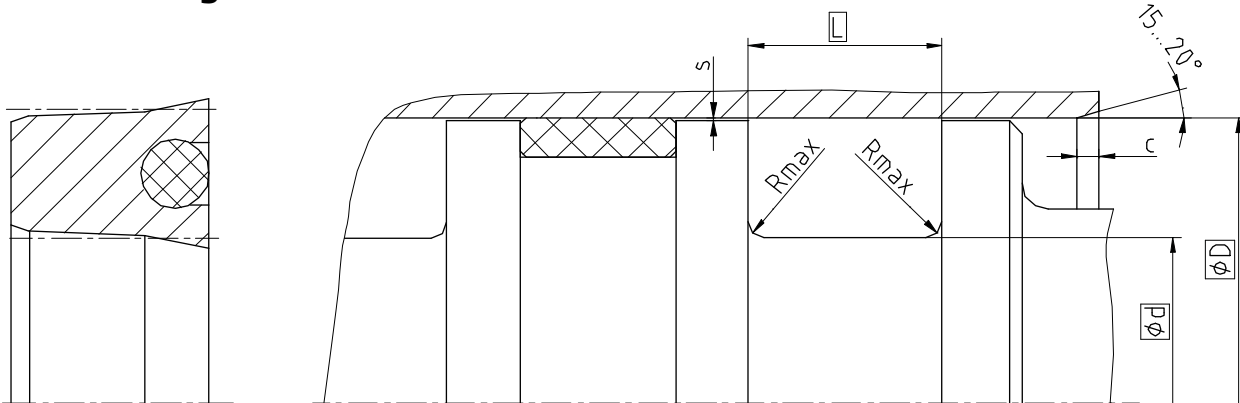
K21-P



2008-09

## Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 13 ... ≤ 25	D - 8	6,0	0,4	3,5	0,33	0,18	0,11	0,05
> 25 ... ≤ 50	D - 10	7,0	0,4	4,0	0,37	0,22	0,16	0,10
> 50 ... ≤ 75	D - 12	8,0	0,4	4,5	0,42	0,27	0,20	0,14
> 75 ... ≤ 150	D - 15	10,0	0,4	5,0	0,46	0,31	0,25	0,19
> 150 ... ≤ 300	D - 20	12,0	0,4	6,0	0,54	0,39	0,32	0,26
> 300 ... ≤ 500	D - 25	18,0	0,4	8,5	0,61	0,46	0,39	0,33
> 500 ... ≤ 600	D - 30	20,0	0,4	10,0	0,67	0,52	0,45	0,39

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>NBR 70</b>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>400 bar (40 Mpa)</b>
H-ECOPUR™		-20 °C...+100 °C	0,5 m/s	
S-ECOPUR™			0,7 m/s	
T-ECOPUR™	<b>MVQ70</b>	<b>-50 °C...+110 °C</b>	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

K21-P, D=100mm, d=85mm, L=10mm, ECOPUR® / NBR70

**Piston Seal K21-P**  
Profile

**100 x 85 x 10**  
D x d x L

**ECOPUR® / NBR 70**  
Sealing material / Energizer



# Seal data sheet

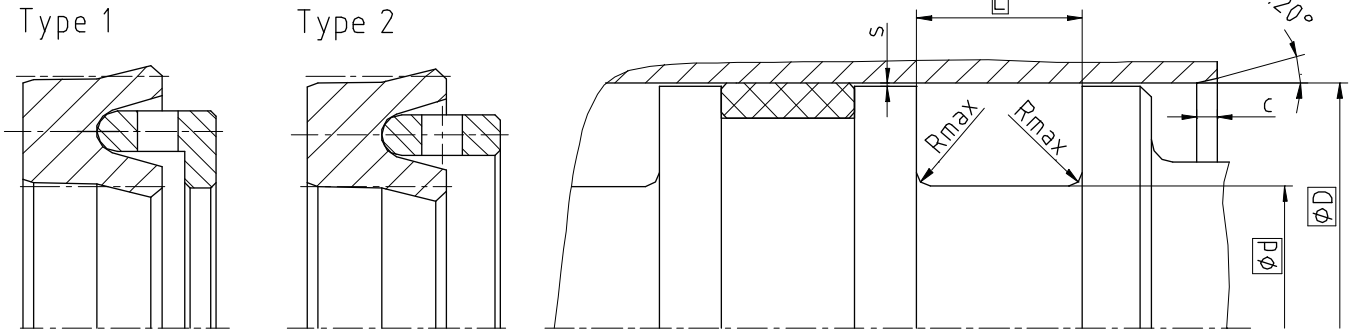
## Piston seals

K22-P



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions... □

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*			
					20 bar	100 bar	200 bar	400 bar
≥ 14 ... ≤ 25	D - 8	6,0	0,4	3,5	0,33	0,18	0,11	0,05
> 25 ... ≤ 50	D - 10	7,0	0,4	4,0	0,37	0,22	0,16	0,10
> 50 ... ≤ 75	D - 12	8,0	0,4	4,5	0,42	0,27	0,20	0,14
> 75 ... ≤ 150	D - 15	10,0	0,4	5,0	0,46	0,31	0,25	0,19
> 150 ... ≤ 300	D - 20	12,0	0,4	6,0	0,54	0,39	0,32	0,26
> 300 ... ≤ 500	D - 25	18,0	0,4	8,5	0,61	0,46	0,39	0,33
> 500 ... ≤ 600	D - 30	20,0	0,4	10,0	0,67	0,52	0,45	0,39

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.  
Standard: Type 2

### Operating parameters

Sealing material	Support ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	0,5 m/s	<b>400 bar (40 Mpa)</b>
H-ECOPUR™		-20 °C...+100 °C		
S-ECOPUR™		-20 °C...+100 °C	0,7 m/s	
T-ECOPUR™		-40 °C...+100 °C	0,5 m/s	
G-ECOPUR™		-30 °C...+100 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

K22-P, D=100mm, d=85mm, L=10mm, ECOPUR® / SKF ECOTAL

**Piston Seal K22-P**  
Profile

**100 x 85 x 10**  
D x d x L

**ECOPUR® / SKF ECOTAL**  
Sealing material / Support ring

# Seal data sheet

## Piston seals

K22-R

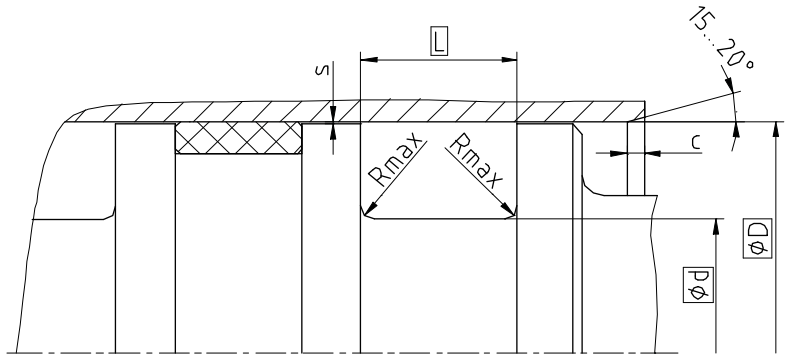
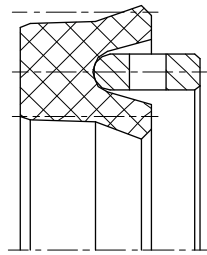
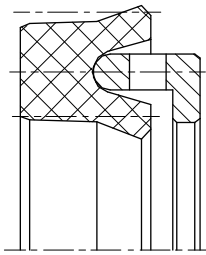


2008-09

### Seal housing

Type 1

Type 2



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions... □

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*		
					20 bar	100 bar	160 bar
≥ 14 ... ≤ 25	D - 8	6,0	0,4	3,5	0,23	0,16	0,14
> 25 ... ≤ 50	D - 10	7,0	0,4	4,0	0,26	0,19	0,17
> 50 ... ≤ 75	D - 12	8,0	0,4	4,5	0,29	0,22	0,20
> 75 ... ≤ 150	D - 15	10,0	0,4	5,0	0,31	0,24	0,22
> 150 ... ≤ 300	D - 20	12,0	0,4	6,0	0,34	0,27	0,25
> 300 ... ≤ 500	D - 25	18,0	0,4	8,5	0,37	0,30	0,29
> 500 ... ≤ 600	D - 30	20,0	0,4	10,0	0,40	0,34	0,32

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.  
Standard: Type 2

### Operating parameters

Sealing material	Support ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECORUBBER-1</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	<b>0,5 m/s</b>	<b>160 bar (16 Mpa)</b>
SKF ECORUBBER-2	SKF ECOFLON 2	-20 °C...+100 °C		
SKF ECORUBBER-3	SKF ECOTAL SKF ECOMID <sup>2</sup>	-40 °C...+100 °C		
	SKF ECOFLON 2	-50 °C...+150 °C		
SKF ECORUBBER-H	SKF ECOTAL SKF ECOMID <sup>2</sup>	-25 °C...+100 °C		
	SKF ECOFLON 2	-25 °C...+150 °C		
SKF ECOFLAS		-10 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

K22-P, D=100mm, d=85mm, L=10mm, SKF ECORUBBER-1 / SKF ECOTAL

**Piston Seal K22-P**

Profile

**100 x 85 x 10**

D x d x L

**SKF ECORUBBER-1 / SKF ECOTAL**

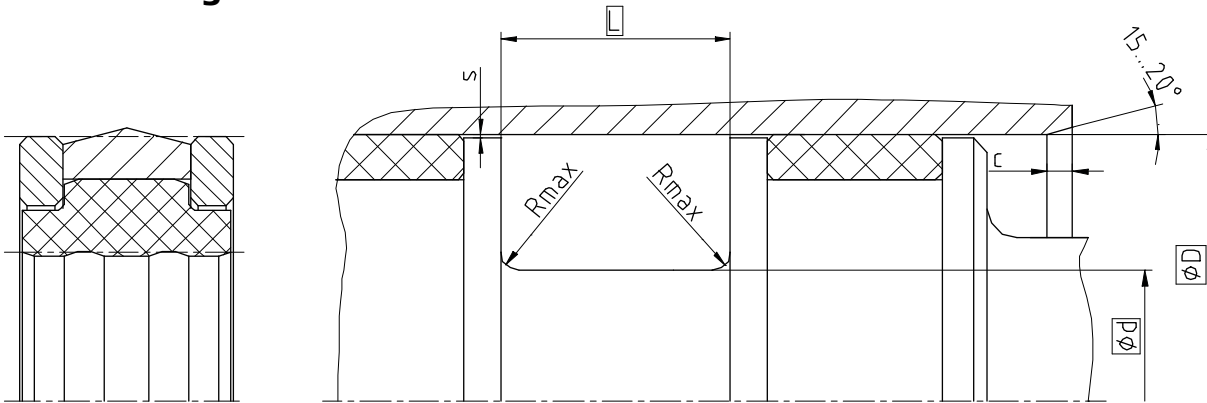
Sealing material / Support ring

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### Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 μm	0,1...0,5 μm
Bottom of groove	≤ 6,3 μm	≤ 1,6 μm
Groove face	≤ 15 μm	≤ 3 μm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h9	L +0,2	Rmax	c	s*
≥ 20 ... < 50	D - 10	12,5	0,4	4	0,4
≥ 50 ... < 80	D - 15	20		5	
≥ 80 ... < 150	D - 20	25		6	
≥ 150 ... < 400	D - 25	32		8,5	
≥ 400 ... ≤ 600	D - 30	36		10	

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>SKF ECORUBBER-1</b>	<b>SKF ECOTAL</b>	-30 °C...+100 °C	<b>0,5 m/s</b>	<b>400 bar (40 Mpa)</b>
H-ECOPUR™			-20 °C...+100 °C		
S-ECOPUR™				0,7 m/s	
T-ECOPUR™	SKF ECOSIL		-40 °C...+100 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

K23-N, D=100mm, d=80mm, L=25mm, ECOPUR® / SKF ECORUBBER-1 / SKF ECOTAL

**Piston Seal K23-N 100 x 80 x 25 ECOPUR® / SKF ECORUBBER-1 / SKF ECOTAL**

Profile

D x d x L

Sealing material / Energizer / Backup ring

# Seal data sheet

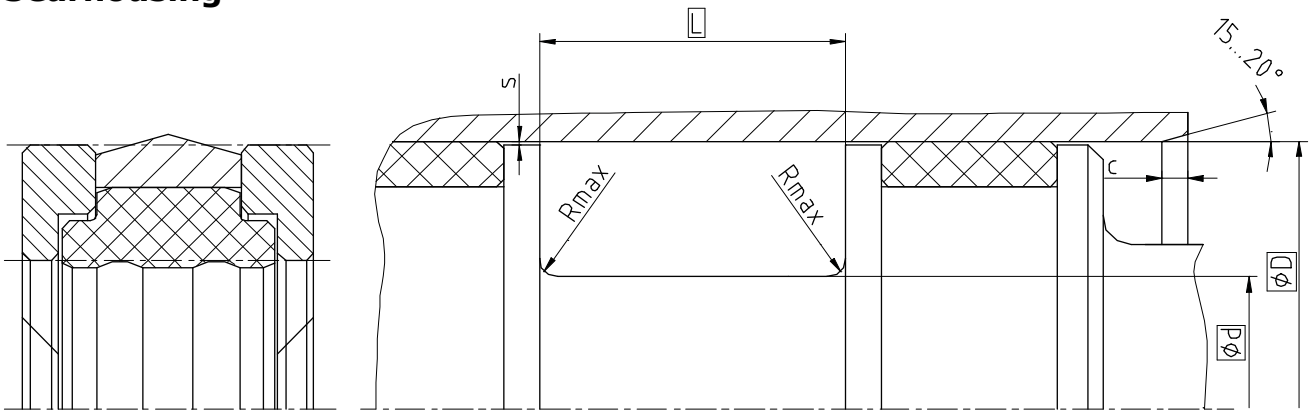
K23-H



2008-09

## Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h9	L +0,2	Rmax	c	s*
≥ 20 ... < 50	D - 10	12,5	0,4	4	0,4
≥ 50 ... < 80	D - 15	20		5	
≥ 80 ... < 150	D - 20	25		6	
≥ 150 ... < 400	D - 25	32		8,5	
≥ 400 ... < 600	D - 30	36		10	

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>SKF ECORUBBER-1</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	<b>0,3 m/s</b>	<b>1500 bar</b> <b>(150 MPa)</b>
H-ECOPUR™			-20 °C...+100 °C		
S-ECOPUR™			-40 °C...+100 °C	0,4 m/s	
T-ECOPUR™	SKF ECOSIL		0,3 m/s		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

K23-H, D=100mm, d=80mm, L=25mm, ECOPUR® / SKF ECORUBBER-1 / SKF ECOTAL

**Piston Seal K23-H 100 x 80 x 25 ECOPUR® / SKF ECORUBBER-1 / SKF ECOTAL**  
Profile D x d x L Sealing material / Energizer / Backup ring

# Seal data sheet

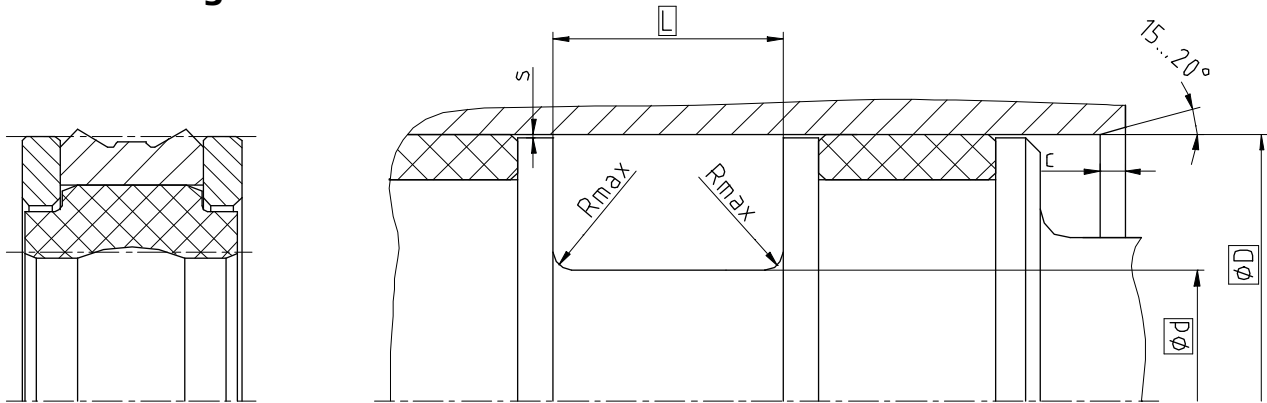
K23-D



2008-09

## Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h9	L +0,2	Rmax	c	s*
≥ 20 ... < 50	D - 10	12,5	0,4	4	0,4
≥ 50 ... < 80	D - 15	20		5	
≥ 80 ... < 150	D - 20	25		6	
≥ 150 ... < 400	D - 25	32		8,5	
≥ 400 ... ≤ 600	D - 30	36		10	

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>SKF ECORUBBER-1</b>	<b>SKF ECOTAL</b>	-30 °C...+100 °C	<b>0,5 m/s</b>	<b>400 bar (40 Mpa)</b>
H-ECOPUR™			-20 °C...+100 °C		
S-ECOPUR™				0,7 m/s	
T-ECOPUR™	<b>SKF ECOSIL</b>		-40 °C...+100 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

K23-D, D=100mm, d=80mm, L=25mm, ECOPUR® / SKF ECORUBBER-1 / SKF ECOTAL

**Piston Seal K23-D 100 x 80 x 25 ECOPUR® / SKF ECORUBBER-1 / SKF ECOTAL**  
 Profile D x d x L Sealing material / Energizer / Backup ring

# Seal data sheet

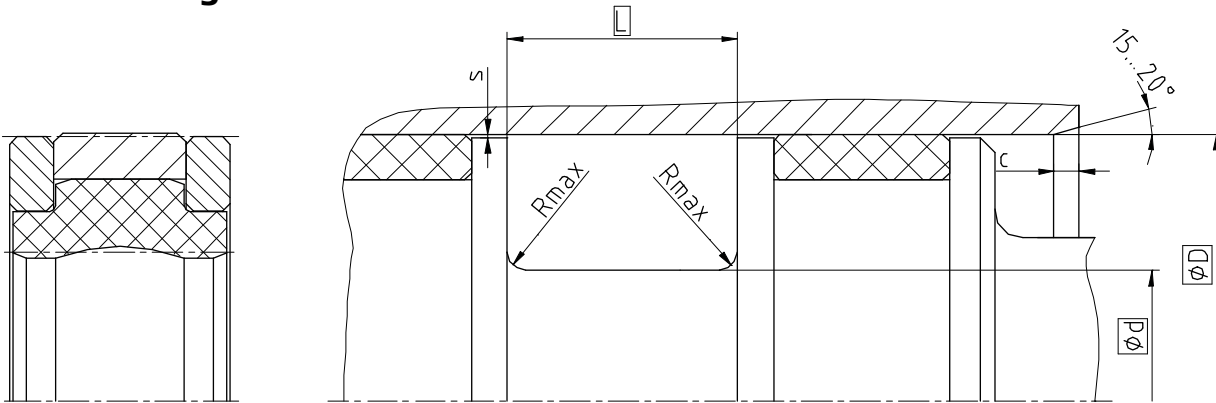
K23-F



2008-09

## Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h9	L +0,2	Rmax	c	s*
≥ 20 ... < 50	D - 10	12,5	0,4	4	0,4
≥ 50 ... < 80	D - 15	20		5	
≥ 80 ... < 150	D - 20	25		6	
≥ 150 ... < 400	D - 25	32		8,5	
≥ 400 ... ≤ 750	D - 30	36		10	
> 750	D - 40	40		13	

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
X-ECOPUR™	SKF ECORUBBER-1	SKF ECOTAL SKF ECOMID <sup>2</sup>	-30 °C...+100 °C	1 m/s	400 bar (40 Mpa)
XH-ECOPUR™				1,2 m/s	
XS-ECOPUR™					
SKF ECOFLON 2 SKF ECOFLON 3 SKF ECOFLON 4	SKF ECORUBBER-1	SKF ECOTAL SKF ECOMID <sup>2</sup>	-30 °C...+100 °C	1,5 m/s	400 bar (40 Mpa)
	SKF ECORUBBER-2	SKF ECOPAEK	-20 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

K23-F, D=100mm, d=80mm, L=25mm, SKF ECOFLON 3 / SKF ECORUBBER-1 / SKF ECOTAL

**Piston Seal K23-F 100 x 80 x 25 SKF ECOFLON 3 / SKF ECORUBBER-1 / SKF ECOTAL**

Profile

D x d x L

Sealing material / Energizer / Backup ring

# Seal data sheet

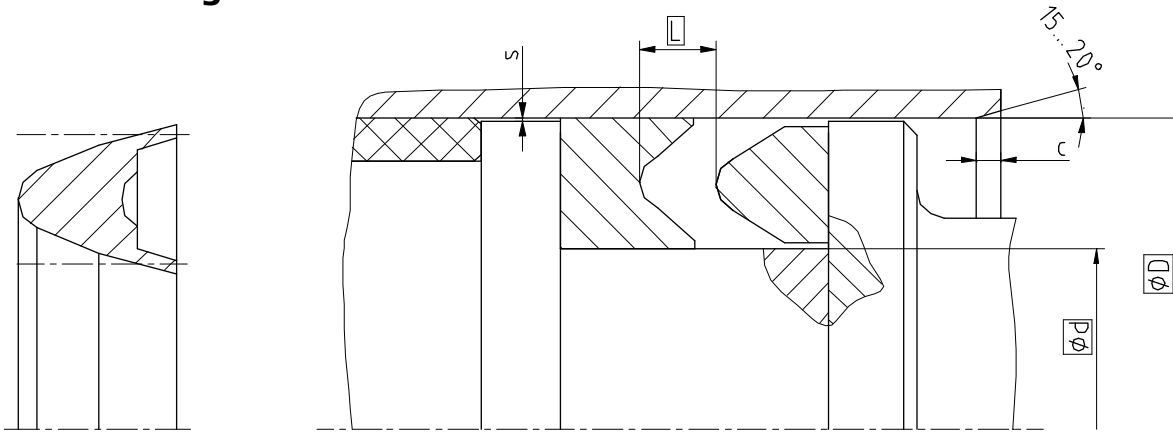
K24-P



2008-09

## Piston seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

minimum nominal inside diameter  $\varnothing d \geq 22\text{mm}$

This is not a standard profile and serves as a replacement for an existing installation space. New constructions should use standard profiles.

### Operating parameters

Sealing material	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>0,5 m/s</b>	500 bar (50 Mpa)
H-ECOPUR™	-20 °C...+110 °C		
T-ECOPUR™	-50 °C...+110 °C		
S-ECOPUR™	-20 °C...+110 °C	0,7 m/s	250 bar (25 Mpa)
G-ECOPUR™	-30 °C...+110 °C	0,5 m/s	
SKF ECORUBBER-1	-30 °C...+100 °C	0,5 m/s	
SKF ECORUBBER-2	-20 °C...+200 °C		
SKF ECORUBBER-3	-50 °C...+150 °C		
SKF ECORUBBER-H	-25 °C...+150 °C		
SKF ECOFLAS	-10 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

K24-P, D=100mm, d=80mm, L=25mm, ECOPUR®

**Piston Seal K24-P**  
Profile

**100 x 80 x 25**  
D x d x L

**ECOPUR®**  
Sealing material

# Seal data sheet

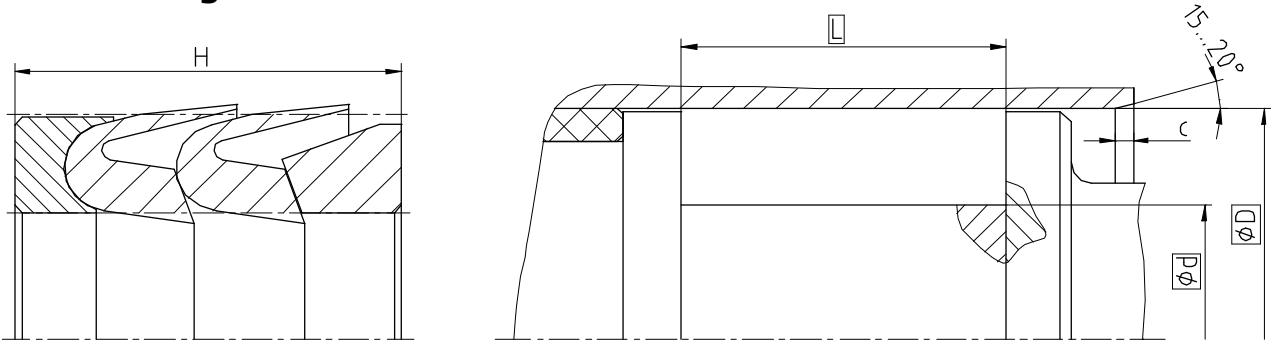
## Piston seals

K32-P



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	s*
- < 24	D - 12	24	0,4	4,5	0,6
≥ 25 ... < 44	D - 15	29		5	0,38
≥ 44 ... < 100	D - 20	38		6	0,50
≥ 100 ... < 150	D - 25	47,5		8,5	0,63
≥ 150 ... < 250	D - 30 / 35	57		10	0,75 / 0,88
> 250 ... < 500	D - 40 / 45	76		13	1,00 / 1,13
> 500	D - 50	95		16	1,25

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

### Operating parameters

Pressure ring	Chevron	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOTAL SKF ECOMID <sup>2</sup>	ECOPUR <sup>®</sup>	SKF ECOTAL SKF ECOMID <sup>2</sup>	-30 °C...+100 °C	0,5 m/s	500 bar (50 Mpa)
	H-ECOPUR <sup>™</sup>		-20 °C...+100 °C		
	S-ECOPUR <sup>™</sup>		-20 °C...+100 °C	0,7 m/s	
	T-ECOPUR <sup>™</sup>		-40 °C...+100 °C	0,5 m/s	
	G-ECOPUR <sup>™</sup>		-30 °C...+100 °C		
SKF ECOTAL SKF ECOMID <sup>2</sup>	<b>ECOPUR</b>	<b>X-ECOPUR<sup>™</sup></b>	<b>-30 °C...+110 °C</b>	<b>0,5 m/s</b>	<b>500 bar (50 Mpa)</b>
	H-ECOPUR <sup>™</sup>	XH-ECOPUR <sup>™</sup>	-20 °C...+110 °C		
	S-ECOPUR <sup>™</sup>	XS-ECOPUR <sup>™</sup>	-20 °C...+110 °C	0,7 m/s	
	G-ECOPUR <sup>™</sup>	G-ECOPUR 54D <sup>™</sup>	-30 °C...+110 °C	0,5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

K32-P, D=100mm, d=75mm, L=47,5mm, SKF ECOTAL / ECOPUR<sup>®</sup> / X-ECOPUR

**Piston Seal K32-P**  
Profile

**100 x 75 x 47,5**  
D x d x L

**SKF ECOTAL / ECOPUR<sup>®</sup> / X-ECOPUR**  
Pressure ring / Chevron / Backup ring



# Seal data sheet

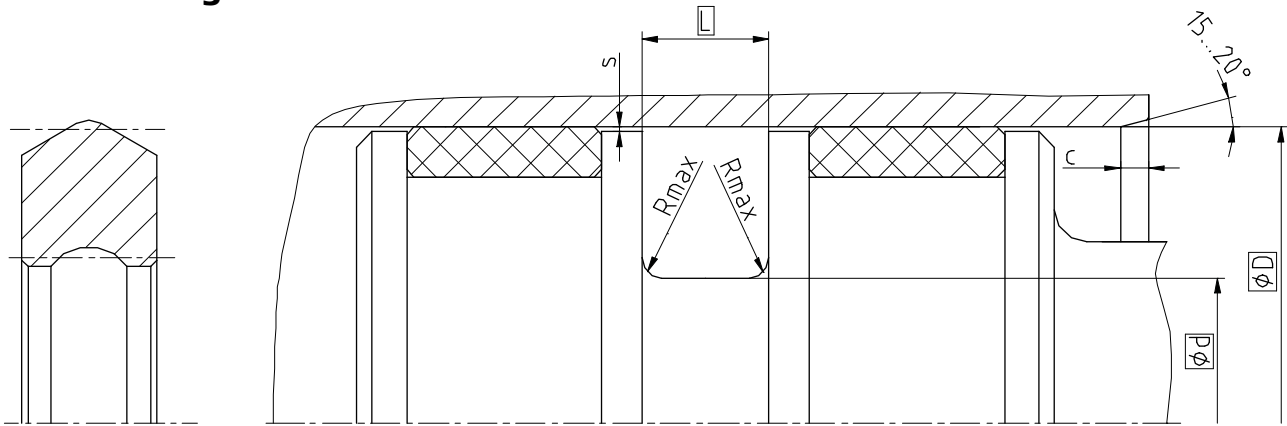
## Piston seals

K35-P



2008-09

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

ØD H9	Ød h10	L +0,2	Rmax	c	max. radial extrusion gap s*		
					100 bar	200 bar	400 bar
≥ 10 ... < 20	D - 5	4	0,4	2	0,16	0,08	0,03
≥ 20 ... < 40	D - 6	4,5		3	0,18	0,10	0,05
≥ 40 ... < 60	D - 8	5,5		3,5	0,18	0,10	0,05
≥ 60 ... < 100	D - 10	6,5		4	0,23	0,15	0,10
≥ 100 ... < 150	D - 15	9,5		5	0,33	0,25	0,18
≥ 150 ... < 300	D - 20	12,5		6	0,38	0,33	0,25
≥ 300 ... < 500	D - 25	15		8,5	0,45	0,40	0,33
≥ 500 ... ≤ 700	D - 30	17,5		10	0,5	0,45	0,40
> 700 ...	D - 40	22		13	0,65	0,63	0,55

\* Extrusion gap applies to a temperature of 70 °C, higher temperatures require lower values.

## Operating parameters

Sealing material	Temperature	max. speed <sup>1</sup>	max. pressure <sup>2</sup>
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>0,4 m/s</b>	<b>400 bar (40 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C	0,4 m/s	
S-ECOPUR™	-20 °C...+110 °C	0,5 m/s	
T-ECOPUR™	-50 °C...+110 °C	0,4 m/s	
G-ECOPUR™	-30 °C...+110 °C	0,4 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Rotary applications max. 0,2 m/s

<sup>2</sup> Pressure ratings depend on the size of the extrusion gap.

## Ordering example

K35-P, D=100mm, d=85mm, L=9,5mm, ECOPUR®

**Piston Seal K35-P**  
Profile

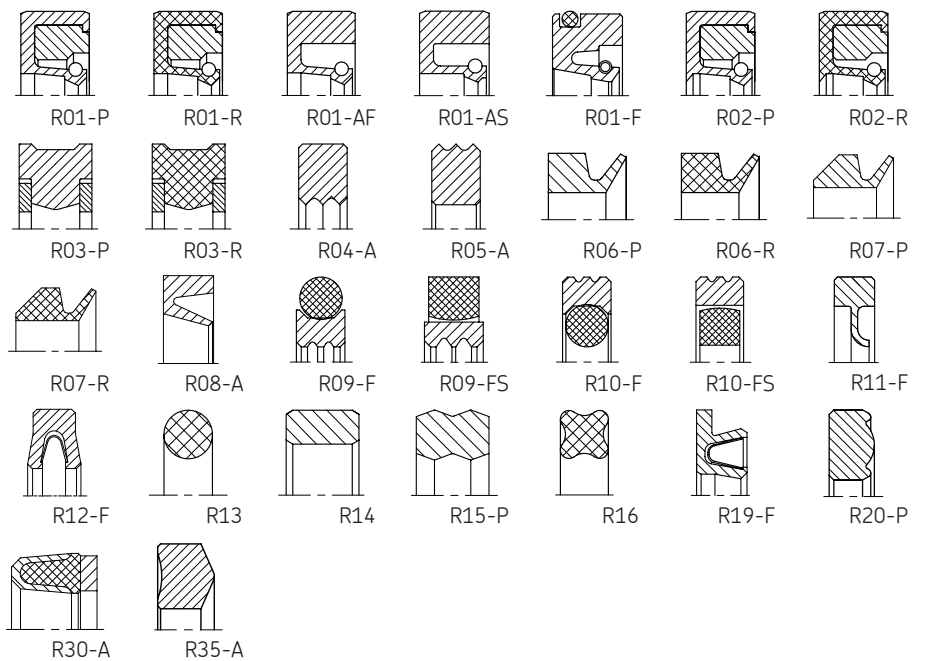
**100 x 85 x 9,5**  
D x d x L

**ECOPUR®**  
Sealing material

**ECONOMOS**

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# Rotary Seals



# Seal data sheet

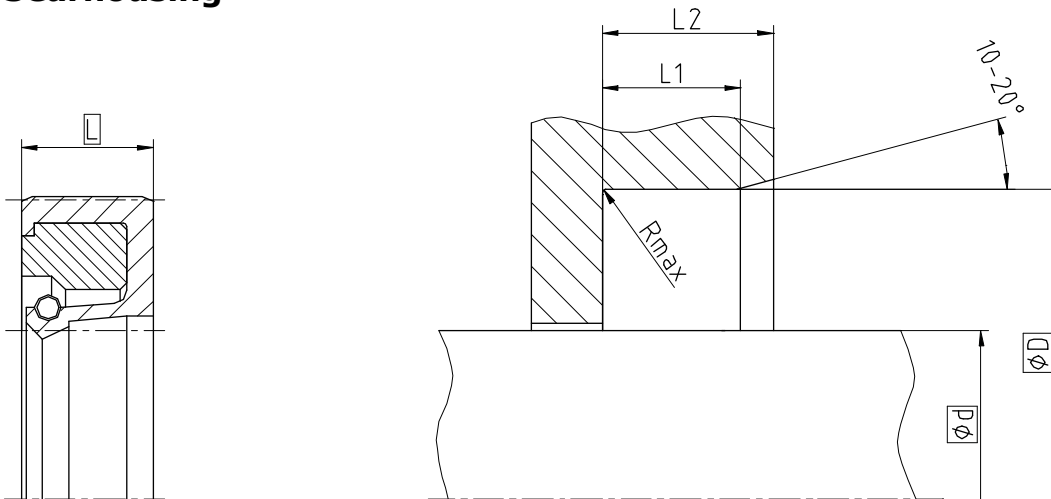
## Rotary seals

R01-P



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 μm	0,1...0,5 μm
Bottom of groove	≤ 6,3 μm	≤ 1,6 μm
Groove face	≤ 15 μm	≤ 3 μm

Ordering dimensions... □

**Hardness:** min. 45 HRC (55 HRC recommended),  
Hardened depth > 0,3mm  
Bearing area: 50...95% and a cutting depth of  
0,5xRz based on Cref = 0%

### Standard dimensions

Ød h11	ØD H8	L	L1	L2	Rmax
≥ 5 ... < 60	d + 12	7,0	5,95	7,3	0,4
≥ 60 ... < 140	d + 15	8,0	6,8	8,3	
≥ 140 ... < 300	d + 20	10,0	8,5	10,3	
≥ 300 ... < 500	d + 30	12,0	10,3	12,3	0,8
≥ 500 ... ≤ 800	d + 40	20,0	17	20,3	
> 800	d + 50	22,0	18,7	22,3	

### Operating parameters

Sealing material	Clamping ring	Spring	Temperature	max. speed <sup>1</sup>	max. pressure
<b>ECOPUR<sup>®</sup></b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>1.4310</b>	<b>-30 °C...+80 °C</b>	<b>5 m/s</b>	<b>0,5 bar</b> <b>(0,05 MPa)</b>
H-ECOPUR <sup>™</sup>			-20 °C...+80 °C		
S-ECOPUR <sup>™</sup>			-20 °C...+80 °C		
T-ECOPUR <sup>™</sup>			-40 °C...+80 °C		
G-ECOPUR <sup>™</sup>			-30 °C...+80 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Depending on shaft diameter

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

R01-P, d=100mm, D=115mm, L=8mm, ECOPUR<sup>®</sup> / SKF ECOTAL / 1.4310

**Rotary Seal R01-P**  
Profile

**100 x 115 x 8**  
d x D x L

**ECOPUR<sup>®</sup> / SKF ECOTAL / 1.4310**  
Sealing material / Clamping ring / Spring

# Seal data sheet

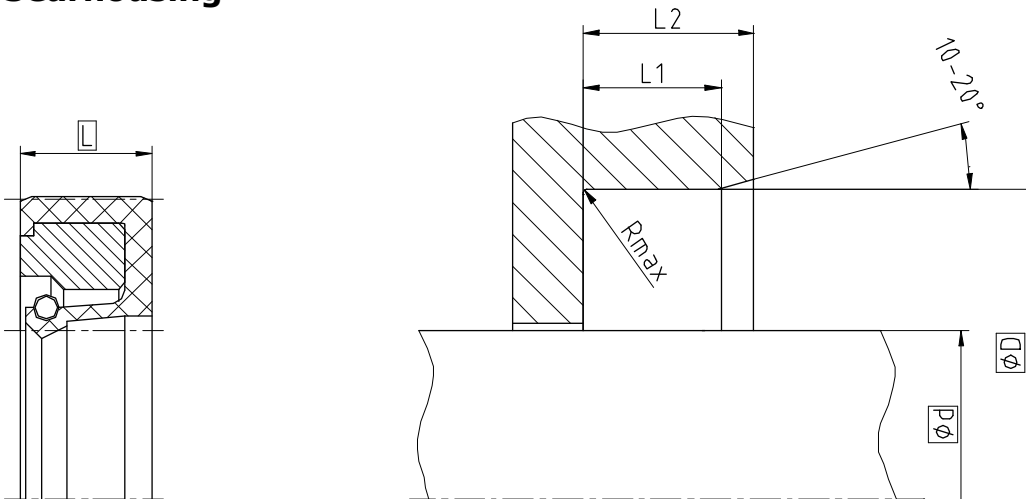
## Rotary seals

R01-R



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

**Hardness:** min. 45 HRC (55 HRC recommended),  
 Hardened depth > 0,3mm  
 Bearing area: 50...95% and a cutting depth of  
 0,5xRz based on Cref = 0%

### Standard dimensions

Ød h11	ØD H8	L	L1	L2	Rmax
≥ 5 ... < 60	d + 12	7,0	5,95	7,3	0,4
≥ 60 ... < 140	d + 15	8,0	6,8	8,3	
≥ 140 ... < 300	d + 20	10,0	8,5	10,3	
≥ 300 ... < 500	d + 30	12,0	10,3	12,3	0,8
≥ 500 ... ≤ 800	d + 40	20,0	17	20,3	
> 800	d + 50	22,0	18,7	22,3	

### Operating parameters

Sealing material	Clamping ring	Spring	Temperature	max. speed <sup>1</sup>	max. pressure
<b>SKF ECORUBBER-1</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>1.4310</b>	<b>-30 °C...+80 °C</b>	<b>10 m/s</b>	<b>0,5 bar</b> <b>(0,05 MPa)</b>
SKF ECORUBBER-2			-20 °C...+80 °C	15 m/s	
SKF ECORUBBER-3			-50 °C...+80 °C	10 m/s	
SKF ECORUBBER-H			-25 °C...+80 °C		
SKF ECOFLAS			-10 °C...+80 °C	5 m/s	-
SKF ECOSIL			-60 °C...+80 °C		
SKF ECORUBBER-1	<b>SKF ECOPA EK</b>	<b>1.4310</b>	-30 °C...+100 °C	10 m/s	0,5 bar (0,05 MPa)
SKF ECORUBBER-2			-20 °C...+200 °C	15 m/s	
SKF ECORUBBER-3			-50 °C...+150 °C	10 m/s	
SKF ECORUBBER-H			-25 °C...+150 °C		
SKF ECOFLAS			-10 °C...+200 °C	5 m/s	-
SKF ECOSIL			-60 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Depending on shaft diameter

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

R01-R, d=100mm, D=115mm, L=8mm, SKF ECORUBBER-1 / SKF ECOTAL / 1.4310

**Rotary Seal R01-R 100 x 115 x 8 SKF ECORUBBER-1 / SKF ECOTAL / 1.4310**  
 Profile d x D x L Sealing material / Clamping ring / Spring

# Seal data sheet

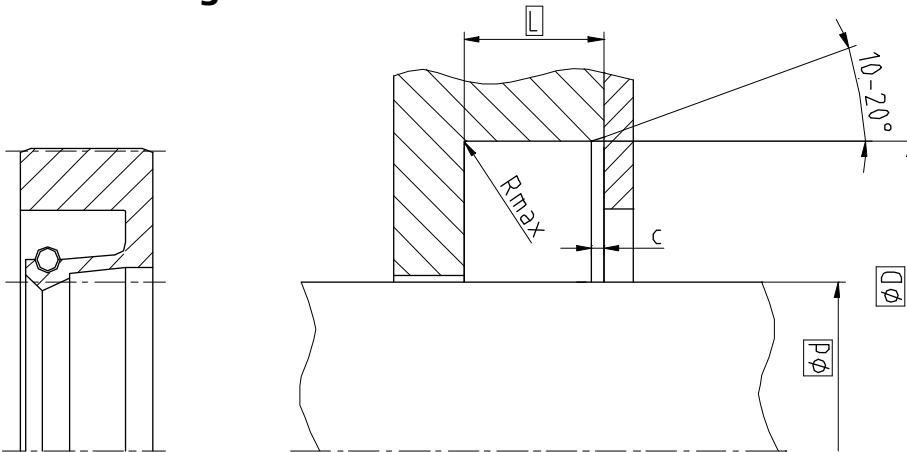
## Rotary seals

R01-AF



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions... □

**Hardness:** min. 45 HRC (55 HRC recommended),  
Hardened depth > 0,3mm  
Bearing area: 50...95% and a cutting depth of  
0,5xRz based on Cref = 0%

### Standard dimensions

Ød <sup>1</sup> h11		Ød <sup>2</sup> h11		ØD H8	L -0,2	c	Rmax
Rotating application		Pivoting application					
≥ 5 ... ≤ 80	≥ 5 ... ≤ 40	d + 15	7	1,2	0,4		
> 80 ... ≤ 140	> 40 ... ≤ 70	d + 20	8	1,5			
> 140 ... ≤ 240	> 70 ... ≤ 120	d + 20	10	1,5			
> 240 ... ≤ 480	> 120 ... ≤ 240	d + 30	12	1,8	0,8		
> 480 ... ≤ 2240	> 240 ... ≤ 1120	d + 40	15	1,8			
> 2240 ... ≤ 3200	> 1120 ... ≤ 1600	d + 50	25	3,3			
> 3200	> 1600	d + 60	30	3,3			

### Operating parameters

Sealing material	Spring	Temperature	max. speed <sup>1</sup>	max. pressure	
<b>ECOPUR<sup>®</sup></b>	<b>1.4310</b>	<b>-30 °C...+110 °C</b>	<b>5 m/s</b>	<b>0,5 bar (0,05 MPa)</b>	
H-ECOPUR <sup>™</sup>		-20 °C...+110 °C			
S-ECOPUR <sup>™</sup>		-20 °C...+110 °C			
T-ECOPUR <sup>™</sup>		-50 °C...+110 °C			
G-ECOPUR <sup>™</sup>		-30 °C...+110 °C			
SKF ECORUBBER-1	1.4310	-30 °C...+100 °C	10 m/s	0,5 bar (0,05 MPa)	
SKF ECORUBBER-2		-20 °C...+200 °C	15 m/s		
SKF ECORUBBER-3		-50 °C...+150 °C	10 m/s		
SKF ECORUBBER-H		-25 °C...+150 °C			
SKF ECOFLAS		-10 °C...+200 °C			
SKF ECOSIL		-60 °C...+200 °C	5 m/s		-

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Depending on shaft diameter

### Ordering example

R01-AF, d=100mm, D=120mm, L=8mm, ECOPUR<sup>®</sup> / 1.4310

**Rotary Seal R01-AF**  
Profile

**100 x 120 x 8**  
d x D x L

**ECOPUR<sup>®</sup> / 1.4310**  
Sealing material / Spring

# Seal data sheet

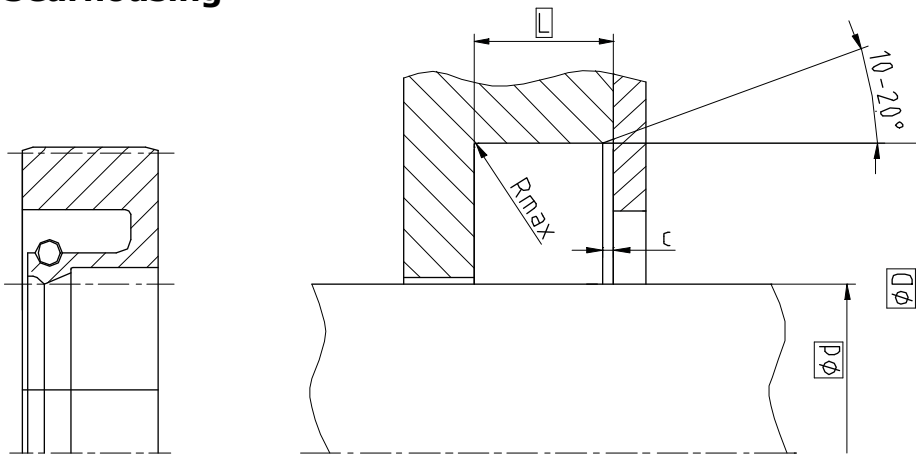
## Rotary seals

R01-AS



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 μm	0,1...0,5 μm
Bottom of groove	≤ 6,3 μm	≤ 1,6 μm
Groove face	≤ 15 μm	≤ 3 μm

Ordering dimensions...□

**Hardness:** min. 45 HRC (55 HRC recommended),  
Hardened depth > 0,3mm  
Bearing area: 50...95% and a cutting depth of  
0,5xRz based on Cref = 0%

### Standard dimensions

Ød <sup>1</sup> h11		Ød <sup>2</sup> h11		ØD H8	L -0,2	c	Rmax
Rotating application		Pivoting application					
≥ 5	... ≤ 70	≥ 5	... ≤ 35	d + 20	8	1,5	0,4
> 70	... ≤ 120	> 35	... ≤ 60	d + 20	10	1,5	
> 120	... ≤ 240	> 60	... ≤ 120	d + 30	12	1,8	0,8
> 240	... ≤ 1120	> 120	... ≤ 560	d + 40	15	3	
> 1120	... ≤ 1600	> 560	... ≤ 800	d + 50	20	3,3	
> 1600		> 800	... ≤ 2220	d + 60	25	3,3	

### Operating parameters

Sealing material	Spring	Temperature	max. speed <sup>1</sup>	max. pressure
<b>ECOPUR®</b>	<b>1.4310</b>	<b>-30 °C...+110 °C</b>	<b>5 m/s</b>	-
H-ECOPUR™		-20 °C...+110 °C		
S-ECOPUR™		-20 °C...+110 °C		
T-ECOPUR™		-50 °C...+110 °C		
G-ECOPUR™		-30 °C...+110 °C		
SKF ECORUBBER-1	1.4310	-30 °C...+100 °C	10 m/s	
SKF ECORUBBER-2		-20 °C...+200 °C	15 m/s	
SKF ECORUBBER-3		-50 °C...+150 °C	10 m/s	
SKF ECORUBBER-H		-25 °C...+150 °C		
SKF ECOFLAS		-10 °C...+200 °C		
SKF ECOSIL		-60 °C...+200 °C	5 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Depending on shaft diameter

### Ordering example

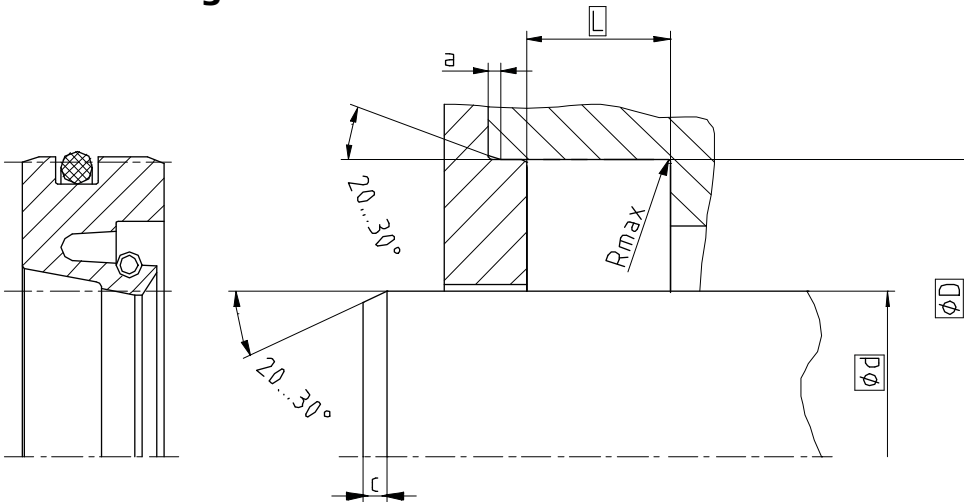
R01-AS, d=100mm, D=120mm, L=10mm, ECOPUR® / 1.4310

**Rotary Seal R01-AS**  
Profile

**100 x 120 x 10**  
d x D x L

**ECOPUR® / 1.4310**  
Sealing material / Spring

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

**Hardness:** On the surface min 55 HRC

Hardened depth > 0,3mm

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød h11		Ød h11		ØD H8	L -0,1	c	a	Rmax
Rotating applications		Pivoting applications						
≥ 10	... ≤ 66	≥ 10	... ≤ 33	d + 12	7,0	3	1,25	0,4
> 66	... ≤ 110	> 33	... ≤ 55	d + 15	9,0	3,5	1,5	
> 110	... ≤ 280	> 55	... ≤ 140	d + 20	10,0	5	2	
> 280	... ≤ 400	> 140	... ≤ 200	d + 25	12,5	6,5	2,5	0,8
> 400	... ≤ 600	> 200	... ≤ 400	d + 30	15,0	7,5	3	
-		> 400	... ≤ 600	d + 40	20,0	9	3,5	

### Operating parameters

Sealing material	Energizer	Spring	Temperature	max. speed	max. pressure
SKF ECOFLON 1 SKF ECOFLON 2 SKF ECOFLON 3 <b>SKF ECOFLON 4</b>	<b>NBR70</b>	<b>1.4310</b>	<b>-30 °C...+100 °C</b>	<b>10 m/s</b>	<b>15 bar (1,5 MPa)</b>
	FPM/FKM		<b>-20 °C...+200 °C</b>		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

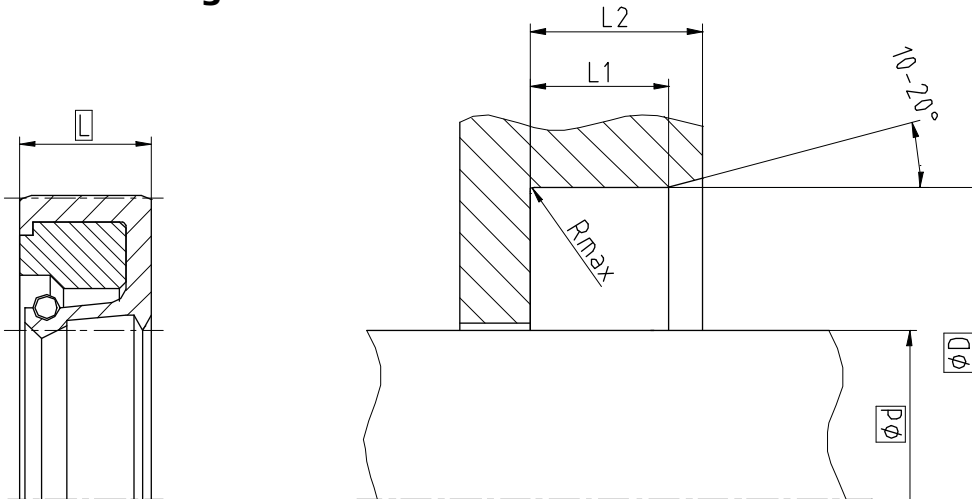
R01-F, d=100mm, D=120mm, L=10mm, SKF ECOFLON 4 / NBR70 / 1.4310

**Rotary Seal R01-F**  
Profile

**100 x 120 x 10**  
d x D x L

**SKF ECOFLON 4 / NBR70 / 1.4310**  
Sealing material / O-Ring / Spring

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions... □

**Hardness:** min. 45 HRC (55 HRC recommended),  
Hardened depth > 0,3mm

Bearing area: 50...95% and a cutting depth of  
0,5xRz based on Cref = 0%

### Standard dimensions

Ød h11	ØD H8	L	L1	L2	Rmax
≥ 5 ... < 60	d + 12	7	5,95	7,3	0,4
≥ 60 ... < 140	d + 15	8	6,8	8,3	
≥ 140 ... < 300	d + 20	10	8,5	10,3	
≥ 300 ... < 500	d + 30	12	10,3	12,3	0,8
≥ 500 ... ≤ 800	d + 40	20	17	20,3	
> 800	d + 50	22	18,7	22,3	

### Operating parameters

Sealing material	Clamping ring	Spring	Temperature	max. speed <sup>1</sup>	max. pressure
<b>ECOPUR®</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>1.4310</b>	<b>-30 °C...+80 °C</b>	<b>5 m/s</b>	<b>0,5 bar (0,05 MPa)</b>
H-ECOPUR™			-20 °C...+80 °C		
S-ECOPUR™			-40 °C...+80 °C		
T-ECOPUR™			-30 °C...+80 °C		
G-ECOPUR™					

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Depending on shaft diameter

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

R02-P, d=100mm, D=115mm, L=8mm, ECOPUR® / SKF ECOTAL / 1.4310

**Rotary Seal R02-P**  
Profile

**100 x 115 x 8**  
d x D x L

**ECOPUR® / SKF ECOTAL / 1.4310**  
Sealing material / Clamping ring / Spring



# Seal data sheet

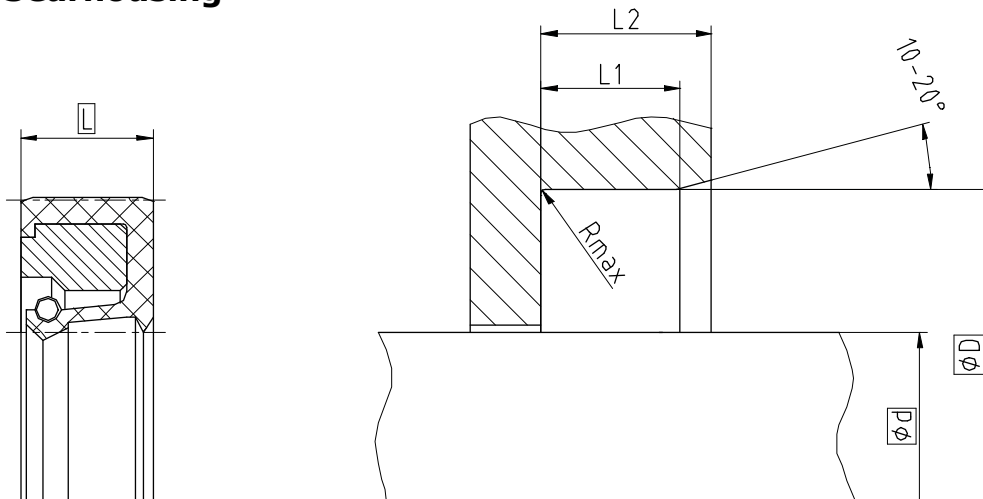
## Rotary seals

R02-R



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions... □

**Hardness:** min. 45 HRC (55 HRC recommended),  
Hardened depth > 0,3mm  
Bearing area: 50...95% and a cutting depth of  
0,5xRz based on Cref = 0%

### Standard dimensions

Ød h11	ØD H8	L	L1	L2	Rmax
≥ 5 ... < 60	d + 12	7,0	5,95	7,3	0,4
≥ 60 ... < 140	d + 15	8,0	6,8	8,3	
≥ 140 ... < 300	d + 20	10,0	8,5	10,3	
≥ 300 ... < 500	d + 30	12,0	10,3	12,3	0,8
≥ 500 ... ≤ 800	d + 40	20,0	17	20,3	
> 800	d + 50	22,0	18,7	22,3	

### Operating parameters

Sealing material	Clamping ring	Spring	Temperature	max. speed <sup>1</sup>	max. pressure
<b>SKF ECORUBBER-1</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>1.4310</b>	<b>-30 °C...+80 °C</b>	<b>10 m/s</b>	<b>0,5 bar</b> <b>(0,05 MPa)</b>
SKF ECORUBBER-2			-20 °C...+80 °C	15 m/s	
SKF ECORUBBER-3			-50 °C...+80 °C	10 m/s	
SKF ECORUBBER-H			-25 °C...+80 °C	10 m/s	
SKF ECOSIL			-60 °C...+80 °C	5 m/s	
SKF ECORUBBER-1	SKF ECOPA EK		-30 °C...+100 °C	10 m/s	0,5 bar (0,05 MPa)
SKF ECORUBBER-2			-20 °C...+200 °C	15 m/s	
SKF ECORUBBER-3			-50 °C...+150 °C	10 m/s	
SKF ECORUBBER-H			-25 °C...+150 °C	10 m/s	
SKF ECOSIL			-60 °C...+200 °C	-	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Depending on shaft diameter

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

R02-R, d=100mm, D=115mm, L=8mm, SKF ECORUBBER-1 / SKF ECOTAL / 1.4310

**Rotary Seal R02-R 100 x 115 x 8 SKF ECORUBBER-1 / SKF ECOTAL / 1.4310**

Profile

d x D x L

Sealing material / Clamping ring / Spring

**ECONOMOS**

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# Seal data sheet

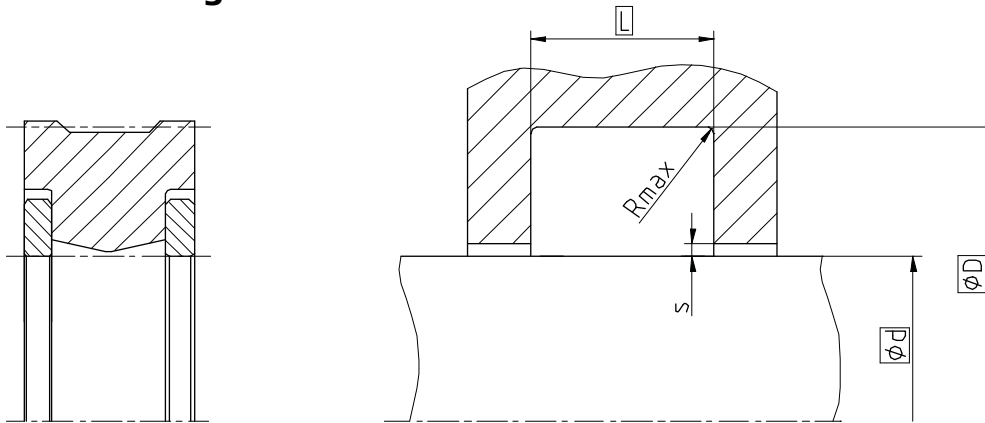
## Rotary seals

R03-P



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

**Hardness:** min. 45 HRC (55 HRC recommended),  
Hardened depth > 0,3mm  
Bearing area: 50...95% and a cutting depth of  
0,5xRz based on Cref = 0%

### Standard dimensions

Ød*	ØD H9	L +0,2	Rmax	s
≥ 21 ... ≤ 22	d + 8	6,5	0,2	e8/H9
> 22 ... ≤ 36	d + 10	8		
> 36 ... ≤ 56	d + 12	8		
> 56 ... ≤ 85	d + 15	11		f7/H7
> 85 ... ≤ 140	d + 20	13		
> 140 ... ≤ 200	d + 25	16		
> 200 ... ≤ 300	d + 30	19		
> 300	d + 40	26		

\*Tolerance area shaft ≤ 56mm: e8 > 56mm: f7

### Operating parameters

Sealing material	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	<b>0,2 m/s</b>	<b>400 bar</b> <b>(40 MPa)</b>
H-ECOPUR™		-20 °C...+100 °C		
S-ECOPUR™		-40 °C...+100 °C	0,3 m/s	
T-ECOPUR™		-20 °C...+100 °C	0,2 m/s	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

R03-P, d=100mm, D=120mm, L=13mm, ECOPUR® / SKF ECOTAL

**Rotary Seal R03-P**  
Profile

**100 x 120 x 13**  
d x D x L

**ECOPUR® / SKF ECOTAL**  
Sealing material / Backup ring

# Seal data sheet

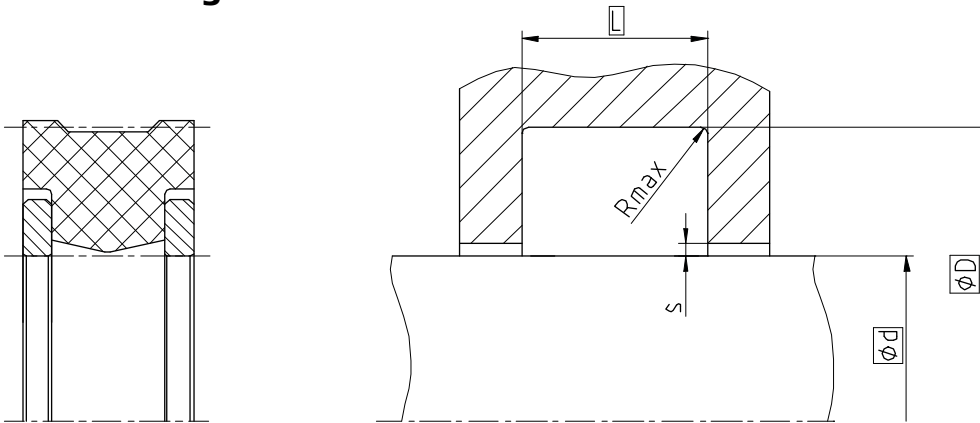
R03-R



2008-09

## Rotary seals

### Seal housing



Surface roughness	R <sub>tmax</sub>	R <sub>a</sub>
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

**Hardness:** min. 45 HRC (55 HRC recommended),  
Hardened depth > 0,3mm  
Bearing area: 50...95% and a cutting depth of  
0,5xRz based on C<sub>ref</sub> = 0%

### Standard dimensions

Ød*	ØD H9	L +0,2	R <sub>max</sub>	s
> 22 ... ≤ 36	d + 10	8	0,2	e8/H9
> 36 ... ≤ 56	d + 12	8		
> 56 ... ≤ 85	d + 15	11		f7/H7
> 85 ... ≤ 140	d + 20	13		
> 140 ... ≤ 200	d + 25	16		
> 200 ... ≤ 300	d + 30	19		
> 300	d + 40	26		

\*Tolerance area shaft ≤ 56mm: e8 > 56mm: f7

### Operating parameters

Sealing material	Backup ring	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECORUBBER-1</b>	<b>SKF ECOTAL</b> SKF ECOMID <sup>2</sup>	<b>-30 °C...+100 °C</b>	<b>0,2 m/s</b>	<b>250 bar</b> <b>(25 MPa)</b>
SKF ECORUBBER-2	SKF ECOFLON 2	-20 °C...+200 °C		
SKF ECORUBBER-3	SKF ECOTAL SKF ECOMID <sup>2</sup>	-40 °C...+100 °C		
	SKF ECOFLON 2	-50 °C...+150 °C		
SKF ECORUBBER-H	SKF ECOTAL SKF ECOMID <sup>2</sup>	-25 °C...+100 °C		
	SKF ECOFLON 2	-25 °C...+150 °C		
SKF ECOFLAS	SKF ECOPA EK	-10 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

<sup>2</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

R03-R, d=100mm, D=120mm, L=13mm, SKF ECORUBBER-1 / SKF ECOTAL

**Rotary Seal R03-R**

Profile

**100 x 120 x 13**

d x D x L

**SKF ECORUBBER-1 / SKF ECOTAL**

Sealing material / Backup ring

**ECONOMOS**

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# Seal data sheet

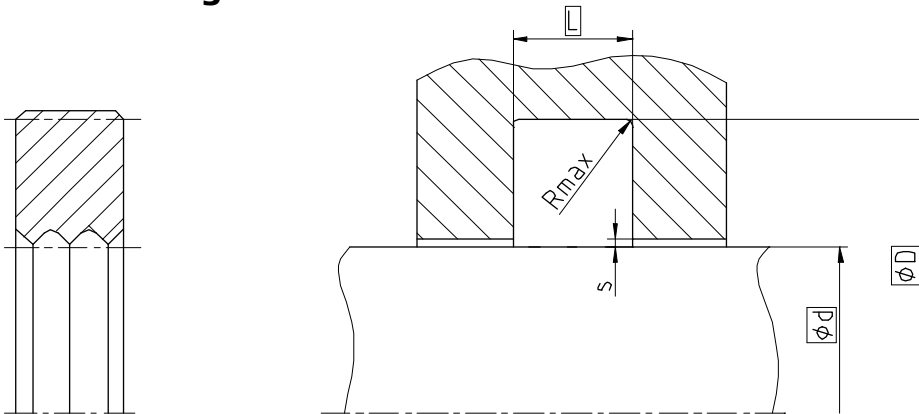
## Rotary seals

R04-A



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 μm	0,1...0,5 μm
Bottom of groove	≤ 6,3 μm	≤ 1,6 μm
Groove face	≤ 15 μm	≤ 3 μm

Ordering dimensions...□

**Hardness:** min. 45 HRC (55 HRC recommended),  
Hardened depth > 0,3mm

Bearing area: 50...95% and a cutting depth of  
0,5xRz based on Cref = 0%

### Standard dimensions

Ød*	ØD H9	L +0,2	Rmax	s
≥ 5 ... ≤ 22	d + 8	4,5	0,2	e8 / H9
> 22 ... ≤ 36	d + 10	5,6		
> 36 ... ≤ 56	d + 12	5,6		
> 56 ... ≤ 85	d + 15	7,7		f7 / H7
> 85 ... ≤ 140	d + 20	9,2		
> 140 ... ≤ 200	d + 25	11,3		
> 200 ... ≤ 300	d + 30	13,5		
> 300	d + 40	18,5		

\*Tolerance area shaft ≤ 56mm: e8 > 56mm: f7

### Operating parameters

Sealing material	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>0,2 m/s</b>	<b>160 bar (16 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C		
S-ECOPUR™	-20 °C...+110 °C		
T-ECOPUR™	-50 °C...+110 °C	0,2 m/s	
SKF ECORUBBER-1	-30 °C...+100 °C	0,2 m/s	100 bar (10 MPa)
SKF ECORUBBER-2	-20 °C...+200 °C		
SKF ECORUBBER-3	-50 °C...+150 °C		
SKF ECORUBBER-H	-25 °C...+150 °C		
SKF ECOFLAS	-10 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

R04-A, d=100mm, D=120mm, L=13mm, ECOPUR®

**Rotary Seal R04-A**  
Profile

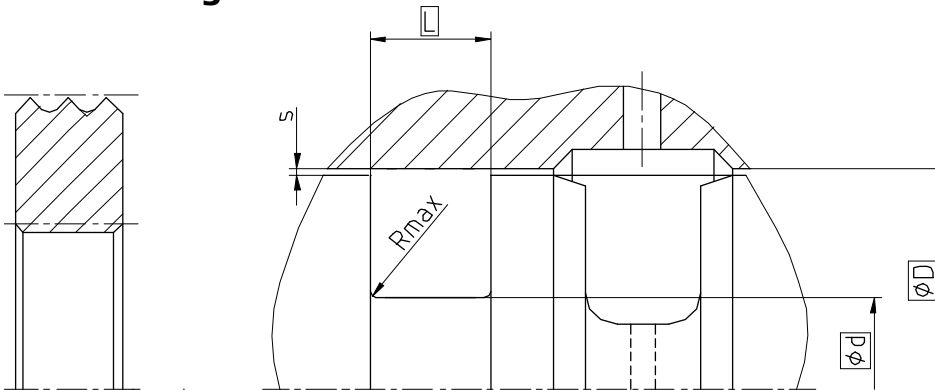
**100 x 120 x 13**  
d x D x L

**ECOPUR®**  
Sealing material

**ECONOMOS**

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## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions... □

**Hardness:** min. 45 HRC (55 HRC recommended),  
Hardened depth > 0,3mm

Bearing area: 50...95% and a cutting depth of  
0,5xRz based on Cref = 0%

## Standard dimensions

ØD <sup>1</sup>	Ød h8	L +0,2	Rmax	s
≥ 13 ... ≤ 30	D - 8	4,5	0,2	H9 / e8
> 30 ... ≤ 46	D - 10	5,6		
> 46 ... ≤ 68	D - 12	5,6		
> 68 ... ≤ 100	D - 15	7,7		
> 100 ... ≤ 160	D - 20	9,2		H7 / f7
> 160 ... ≤ 225	D - 25	11,3		
> 225 ... ≤ 330	D - 30	13,5		
> 330	D - 40	18,5		

<sup>1</sup> Tolerance area counter surface ≤ 68mm: H9 > 68mm: H7

## Operating parameters

Sealing material	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>0,2 m/s</b>	<b>160 bar (16 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C		
S-ECOPUR™	-20 °C...+110 °C		
T-ECOPUR™	-50 °C...+110 °C	0,2 m/s	100 bar (10 MPa)
SKF ECORUBBER-1	-30 °C...+100 °C	0,2 m/s	
SKF ECORUBBER-2	-20 °C...+200 °C		
SKF ECORUBBER-3	-50 °C...+150 °C		
SKF ECORUBBER-H	-25 °C...+150 °C		
SKF ECOFLAS	-10 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

## Ordering example

R05-A, d=100mm, D=120mm, L=9,2mm, ECOPUR®

**Rotary Seal R05-A**  
Profile

**100 x 120 x 9,2**  
d x D x L

**ECOPUR®**  
Sealing material

# Seal data sheet

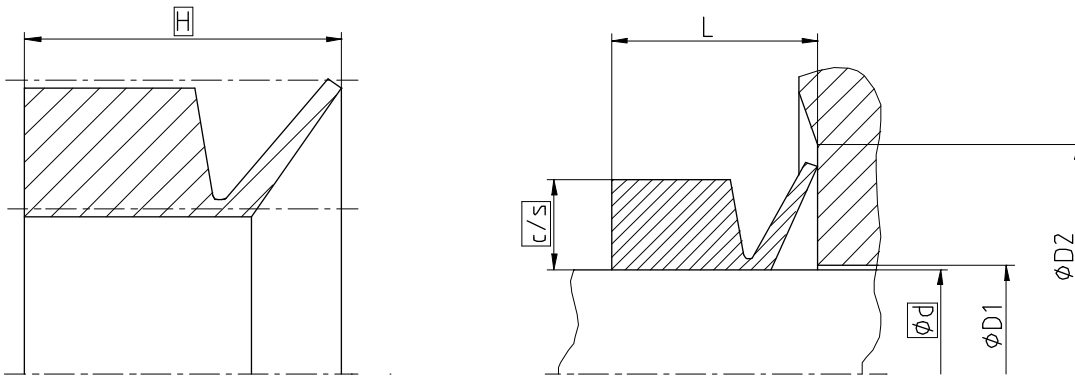
## Rotary seals

R06-P



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød h11	ØD1 max	ØD2 min	c/s	H	L
≥ 5 ... < 40	d + 2,0	d + 12	4	7,5	6
≥ 40 ... < 70	d + 2,5	d + 15	5	9	7
≥ 70 ... < 100	d + 3,0	d + 18	6	10,85	9
≥ 100 ... < 150	d + 3,5	d + 21	7	12,7	10,5
≥ 150 ... < 210	d + 4,0	d + 24	8	14,6	12
≥ 210 ... < 300	d + 5,0	d + 30	10	17,56	14,5
≥ 300 ... < 450	d + 6,25	d + 36,5	12,5	21,26	17,5
≥ 450	d + 7,5	d + 45	15	25	20

### Operating parameters

Sealing material	Temperature	max. speed <sup>1</sup>	max. pressure
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>25 m/s</b>	-
H-ECOPUR™	-20 °C...+110 °C		
S-ECOPUR™	-20 °C...+110 °C		
T-ECOPUR™	-50 °C...+110 °C		
G-ECOPUR™	-30 °C...+110 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> For speeds above 10 m/s, axial support is recommended.

### Ordering example

R06-P, d=100mm, c/s=7mm, H=12,7mm, ECOPUR®

**Rotary Seal R06-P**  
Profile

**100 x 7 x 12,7**  
d x c/s x H

**ECOPUR®**  
Sealing material

# Seal data sheet

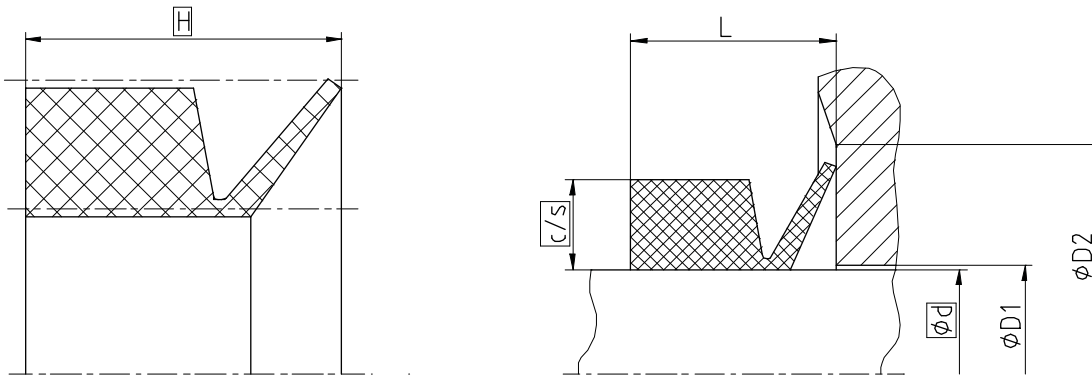
## Rotary seals

R06-R



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød h11	ØD1 max	ØD2 min	c/s	H	L
≥ 5 ... < 40	d + 2,0	d + 12	4	7,5	6
≥ 40 ... < 70	d + 2,5	d + 15	5	9	7
≥ 70 ... < 100	d + 3,0	d + 18	6	10,85	9
≥ 100 ... < 150	d + 3,5	d + 21	7	12,7	10,5
≥ 150 ... < 210	d + 4,0	d + 24	8	14,6	12
≥ 210 ... < 300	d + 5,0	d + 30	10	17,56	14,5
≥ 300 ... < 450	d + 6,25	d + 36,5	12,5	21,26	17,5
≥ 450	d + 7,5	d + 45	15	25	20

### Operating parameters

Sealing material	Temperature	max. speed <sup>1</sup>	max. pressure
<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	<b>25 m/s</b>	-
SKF ECORUBBER-2	-20 °C...+200 °C		
SKF ECORUBBER-3	-50 °C...+150 °C		
SKF ECORUBBER-H	-25 °C...+150 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> For speeds above 10 m/s, axial support is recommended.

### Ordering example

R06-R, d=100mm, c/s=7mm, H=12,7mm, SKF ECORUBBER-1

**Rotary Seal R06-R**  
Profile

**100 x 7 x 12,7**  
d x c/s x H

**SKF ECORUBBER-1**  
Sealing material

# Seal data sheet

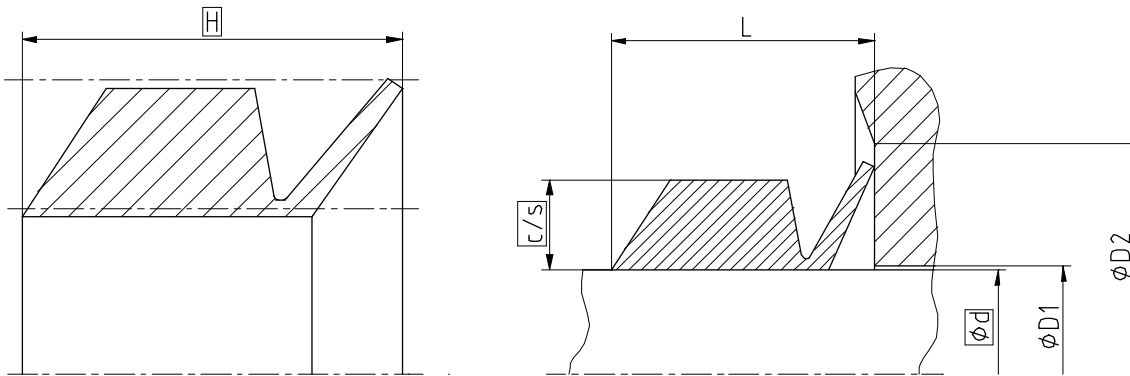
## Rotary seals

R07-P



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød h11	ØD1 max	ØD2 min	c/s	H	L
≥ 5 ... < 40	d + 2,0	d + 12	4	9,76	8,5
≥ 40 ... < 70	d + 2,5	d + 15	5	11,82	10
≥ 70 ... < 100	d + 3,0	d + 18	6	14,23	12,5
≥ 100 ... < 150	d + 3,5	d + 21	7	16,65	14,5
≥ 150 ... < 210	d + 4,0	d + 24	8	19,11	16,5
≥ 210 ... < 300	d + 5,0	d + 30	10	23,20	20,5
≥ 300 ... < 450	d + 6,25	d + 36,5	12,5	28,31	24,5
≥ 450	d + 7,5	d + 45	15	33,42	28,5

### Operating parameters

Sealing material	Temperature	max. speed <sup>1</sup>	max. pressure
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	<b>25 m/s</b>	-
H-ECOPUR™	-20 °C...+110 °C		
S-ECOPUR™	-20 °C...+110 °C		
T-ECOPUR™	-50 °C...+110 °C		
G-ECOPUR™	-30 °C...+110 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> For speeds above 10 m/s, axial support is recommended.

### Ordering example

R07-P, d=100mm, c/s=7mm, H=16,65mm, ECOPUR®

**Rotary Seal R07-P**  
Profile

**100 x 7 x 16,65**  
d x c/s x H

**ECOPUR®**  
Sealing material



# Seal data sheet

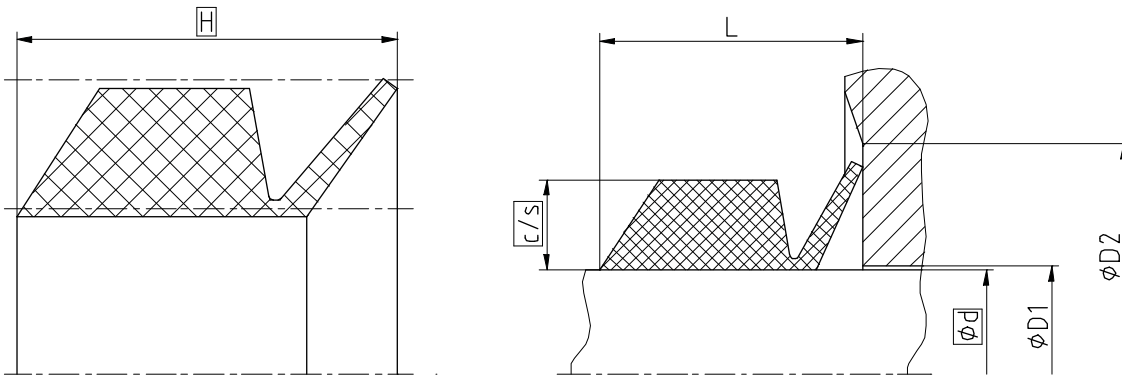
## Rotary seals

R07-R



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød h11	ØD1 max	ØD2 min	c/s	H	L
≥ 5 ... < 40	d + 2,0	d + 12	4	9,76	8,5
≥ 40 ... < 70	d + 2,5	d + 15	5	11,82	10
≥ 70 ... < 100	d + 3,0	d + 18	6	14,23	12,5
≥ 100 ... < 150	d + 3,5	d + 21	7	16,65	14,5
≥ 150 ... < 210	d + 4,0	d + 24	8	19,11	16,5
≥ 210 ... < 300	d + 5,0	d + 30	10	23,20	20,5
≥ 300 ... < 450	d + 6,25	d + 36,5	12,5	28,31	24,5
≥ 450	d + 7,5	d + 45	15	33,42	28,5

### Operating parameters

Sealing material	Temperature	max. speed <sup>1</sup>	max. pressure
<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	<b>25 m/s</b>	-
SKF ECORUBBER-2	-20 °C...+200 °C		
SKF ECORUBBER-3	-50 °C...+150 °C		
SKF ECORUBBER-H	-25 °C...+150 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> For speeds above 10 m/s, axial support is recommended.

### Ordering example

R07-R, d=100mm, c/s=7mm, H=16,65mm, SKF ECORUBBER-1

**Rotary Seal R07-R**  
Profile

**100 x 7 x 16,65**  
d x c/s x H

**SKF ECORUBBER-1**  
Sealing material

# Seal data sheet

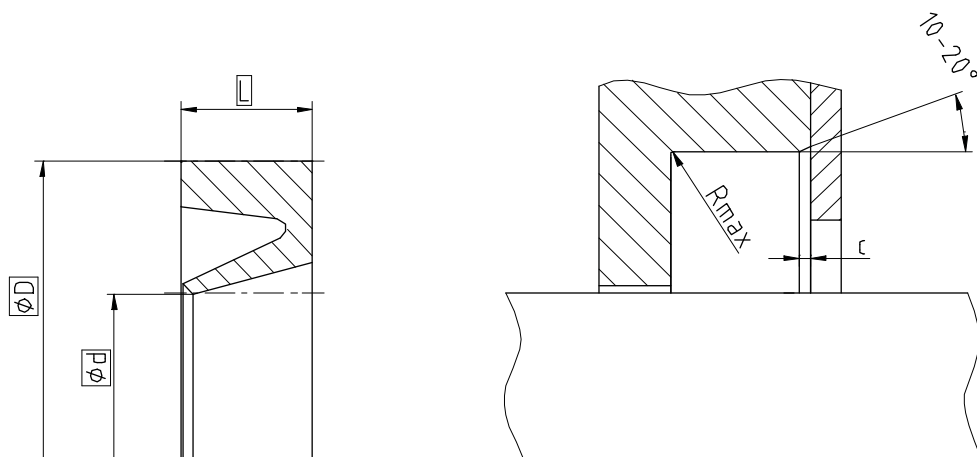
## Rotary seals

### Seal housing

R08-A



2008-09



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

**Hardness:** min. 45 HRC (55 HRC recommended),  
Hardened depth > 0,3mm

Bearing area: 50...95% and a cutting depth of  
0,5xRz based on Cref = 0%

### Standard dimensions

NB	c	Rmax
6,0	1	0,4
7,5	1,2	
10,0	1,5	
15,0	1,8	
20,0	3	
25,0	3,3	

\* Because of the design diversity of this profile, it is not useful to classify it.

\* The standard design considers no preload on the sealing lip.

### Operating parameters

Sealing material	Temperature
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>
H-ECOPUR™	-20 °C...+110 °C
S-ECOPUR™	-20 °C...+110 °C
T-ECOPUR™	-50 °C...+110 °C
G-ECOPUR™	-30 °C...+110 °C
SKF ECORUBBER-1	-30 °C...+100 °C
SKF ECORUBBER-2	-20 °C...+200 °C
SKF ECORUBBER-3	-50 °C...+150 °C
SKF ECORUBBER-H	-25 °C...+150 °C
SKF ECOSIL	-60 °C...+200 °C
SKF ECOFLAS	-10 °C...+200 °C

### Ordering example

R08-A, d=100mm, D=115mm, L=8mm, ECOPUR®

**Rotary Seal R08-A**  
Profile

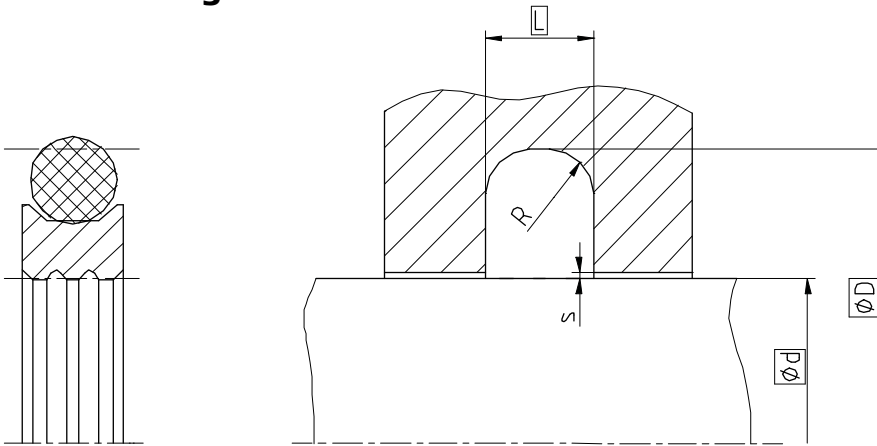
**100 x 115 x 8**  
d x D x L

**ECOPUR®**  
Sealing material

**ECONOMOS**

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### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

**Hardness:** On the surface min 55 HRC

Hardened depth > 0,3mm

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H9	L +0,2	R	max. radial extrusion gap s*		
				100 bar	200 bar	350 bar
≥ 5 ... < 18,9	d + 4,9	2,2	0,3	0,15	0,10	0,10
≥ 19 ... < 38	d + 7,5	3,2	0,5	0,20	0,15	0,10
≥ 38 ... < 200	d + 11	4,2	0,7	0,25	0,20	0,10
≥ 200 ... < 256	d + 15,5	6,3	1,2	0,30	0,25	0,10
≥ 256 ... < 650	d + 21	8,1	1,5	0,30	0,25	0,15
≥ 650 ... ≤ 1000	d + 28	9,5	2,0	0,45	0,30	0,20

\* Extrusion gap applies to a temperature of 80 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECOFLON 4</b>	<b>NBR70</b>	<b>-30 °C...+100 °C</b>	<b>0,4 m/s</b>	<b>350 bar (35 MPa)</b>

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

R09-F, d=100mm, D=111mm, L=4,2mm, SKF ECOFLON 4 / NBR70

**Rotary Seal R09-F**  
Profile

**100 x 111 x 4,2**  
d x D x L

**SKF ECOFLON 4 / NBR70**  
Sealing material / Energizer

# Seal data sheet

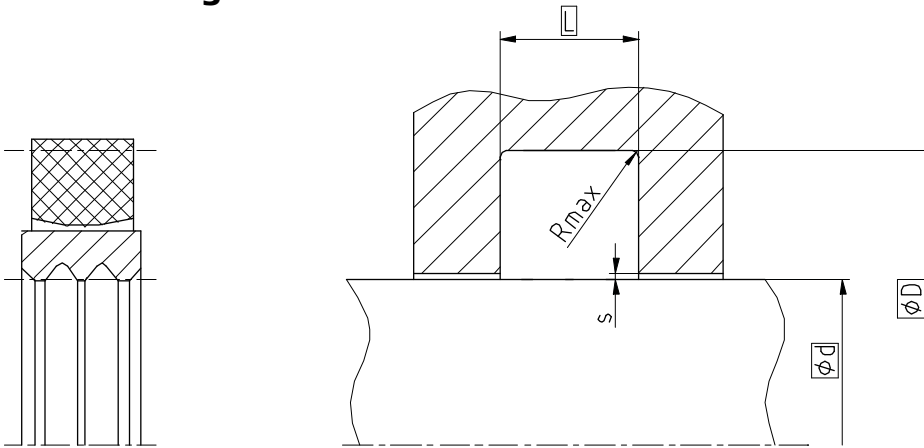
## Rotary seals

R09-FS



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

**Hardness:** On the surface min 55 HRC

Hardened depth > 0,3mm

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H9	L +0,2	Rmax	max. radial extrusion gap s*		
				100 bar	200 bar	350 bar
≥ 5 ... < 49,9	d + 10	5	0,4	0,25	0,2	0,10
≥ 50 ... < 60	d + 15	7,5		0,3	0,25	0,10
≥ 60 ... < 200	d + 20	10		0,3	0,25	0,15
≥ 200 ... < 300	d + 25	12,5		0,3	0,25	0,15
≥ 300 ... < 530	d + 30	15		0,45	0,3	0,2
≥ 530 ... < 650	d + 35	17,5		0,45	0,3	0,2
≥ 650 ... < 1000	d + 40	20		0,5	0,35	0,25

\* Extrusion gap applies to a temperature of 80 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECOFLON 4</b>	<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	<b>0,4 m/s</b>	<b>350 bar (35 MPa)</b>

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

R09-FS, d=100mm, D=120mm, L=10mm, SKF ECOFLON 4 / SKF ECORUBBER-1

**Rotary Seal R09-FS**  
Profile

**100 x 120 x 10**  
d x D x L

**SKF ECOFLON 4 / SKF ECORUBBER-1**  
Sealing material / Energizer

# Seal data sheet

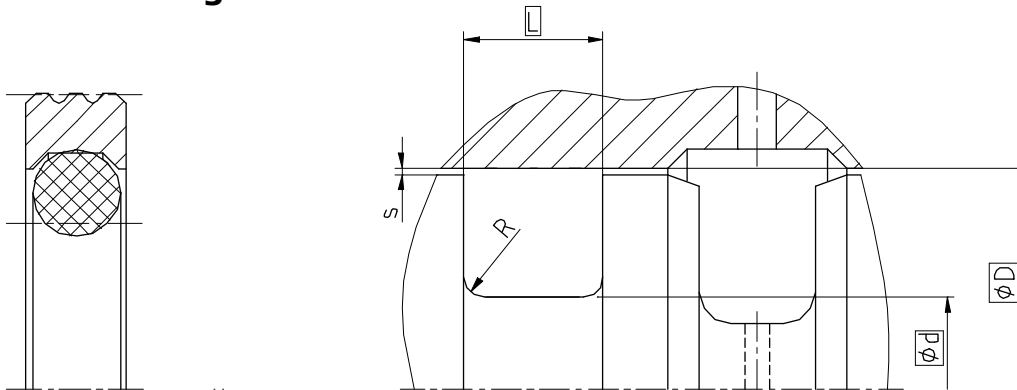
## Rotary seals

R10-F



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

**Hardness:** On the surface min 55 HRC

Hardened depth > 0,3mm

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H8	Ød h8	L +0,2	R	max. radial extrusion gap s*		
				100 bar	200 bar	350 bar
≥ 10 ... < 18,9	D - 4,9	2,2	0,3	0,15	0,10	0,10
≥ 19 ... < 38	D - 7,5	3,2	0,5	0,20	0,15	0,10
≥ 38 ... < 200	D - 11	4,2	0,7	0,25	0,20	0,10
≥ 200 ... < 256	D - 15,5	6,3	1,2	0,30	0,25	0,10
≥ 256 ... < 650	D - 21	8,1	1,5	0,30	0,25	0,15
≥ 650 ... ≤ 1000	D - 28	9,5	2,0	0,45	0,30	0,20

\* Extrusion gap applies to a temperature of 80 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECOFLON 4</b>	<b>NBR70</b>	<b>-30 °C...+100 °C</b>	<b>0,4 m/s</b>	<b>350 bar (35 MPa)</b>

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

R10-F, D=100mm, d=89mm, L=4,2mm, SKF ECOFLON 4 / NBR70

**Rotary Seal R10-F**  
Profile

**100 x 89 x 4,2**  
D x d x L

**SKF ECOFLON 4 / NBR70**  
Sealing material / Energizer

# Seal data sheet

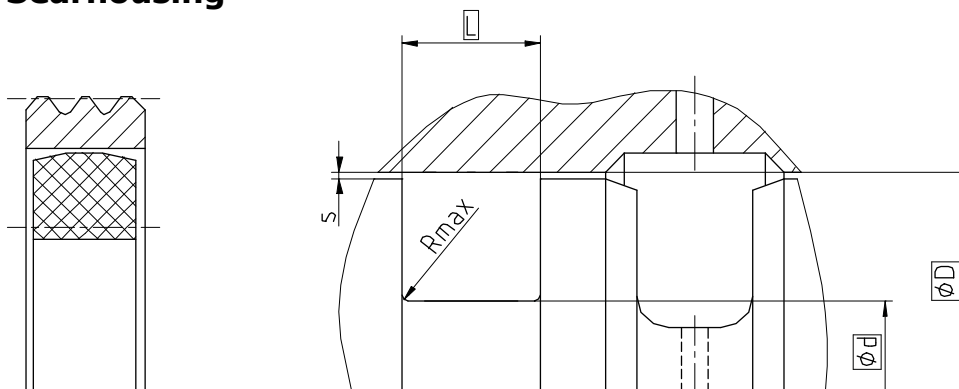
R10-FS



2008-09

## Rotary seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

**Hardness:** On the surface min 55 HRC

Hardened depth > 0,3mm

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H8	Ød h8	L +0,2	Rmax	max. radial extrusion gap s*		
				100 bar	200 bar	350 bar
≥ 15 ... < 49,9	D - 10	5	0,4	0,25	0,2	0,10
≥ 50 ... < 60	D - 15	7,5		0,3	0,25	0,10
≥ 60 ... < 200	D - 20	10		0,3	0,25	0,15
≥ 200 ... < 300	D - 25	12,5		0,3	0,25	0,15
≥ 300 ... < 530	D - 30	15		0,45	0,3	0,2
≥ 530 ... < 650	D - 35	17,5		0,45	0,3	0,2
≥ 650 ... < 1000	D - 40	20		0,5	0,35	0,25

\* Extrusion gap applies to a temperature of 80 °C, higher temperatures require lower values.

### Operating parameters

Sealing material	Energizer	Temperature	max. speed	max. pressure <sup>1</sup>
<b>SKF ECOFLON 4</b>	<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	<b>0,4 m/s</b>	<b>350 bar (35 MPa)</b>

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

### Ordering example

R10-FS, D=100mm, d=80mm, L=10mm, SKF ECOFLON 4 / SKF ECORUBBER-1

**Rotary Seal R10-FS**  
Profile

**100 x 80 x 10**  
D x d x L

**SKF ECOFLON 4 / SKF ECORUBBER-1**  
Sealing material / Energizer

# Seal data sheet

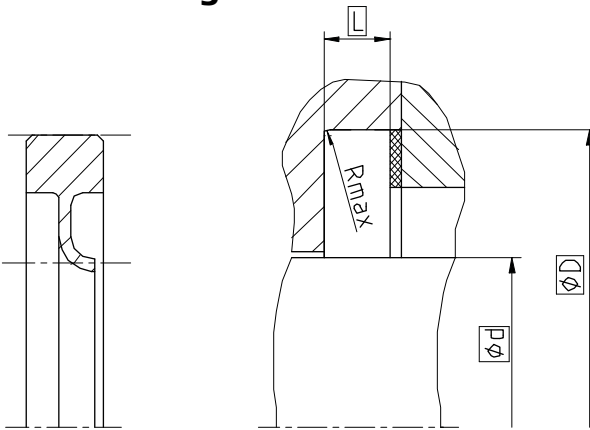
## Rotary seals

R11-F



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	Lmin (-Tol. )	Rmax
≥ 50 ... ≤ 100	d + 20	4 (-0,05)	0,4
> 100 ... ≤ 150	d + 25	5 (-0,05)	
> 150 ...	d + 30	6 (-0,10)	

### Operating parameters

Sealing material	Temperature	max. speed <sup>1</sup>	max. pressure
SKF ECOFLON 2	<b>-200 °C...+260 °C</b>	<b>20 m/s</b>	<b>5 bar (0,5 MPa)</b>
SKF ECOFLON 3			
<b>SKF ECOFLON 4</b>			

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Depending on shaft diameter

### Ordering example

R11-F, d=100mm, D=120mm, L=4mm, SKF ECOFLON 4

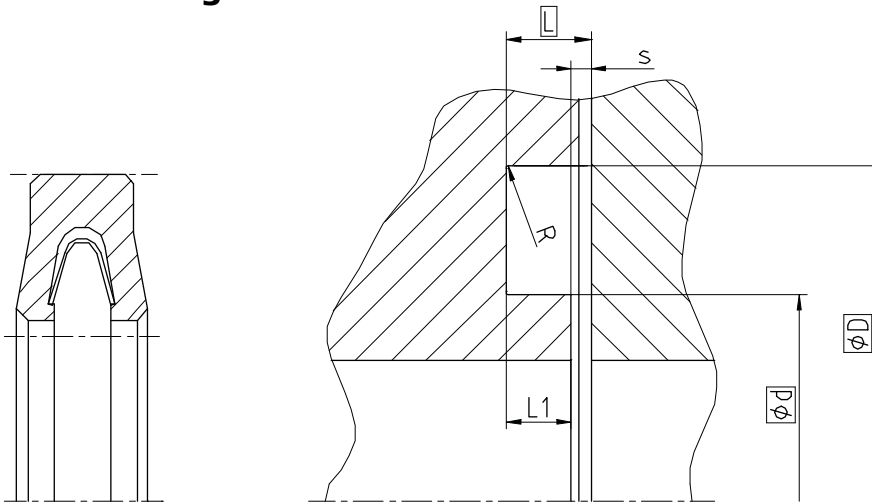
**Rotary Seal R11-F**  
Profile

**100 x 120 x 4**  
d x D x L

**SKF ECOFLON 4**  
Sealing material

## Rotary seals

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H8	Ød	L (+Tol)	L1 min	R	smax <sup>1</sup>
≥ 39,6 ... < 46	D - 9,6	3,1 (+0,08)	1,5	0,4	0,15
≥ 46 ... < 125	D - 14,2	4,7 (+0,10)	2,4		0,2
≥ 125 ... < 600	D - 19	6,1 (+0,15)	3,1		0,25

<sup>1</sup> The extrusion gap is valid for the side opposite to the pressure side.

### Operating parameters

Sealing material	Spring	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOFLON 1	<b>1.4310</b>	<b>-200 °C...+260 °C</b>	<b>1 m/s</b>	<b>300 bar (30 MPa)</b>
<b>SKF ECOFLON 2</b>				
SKF ECOFLON 3				
SKF ECOFLON 4				

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings are dependent on the size of the extrusion gap.

### Ordering example

R12-F, D=100mm, d=85,8mm, L=1,4mm, SKF ECOFLON 2 / 1.4310

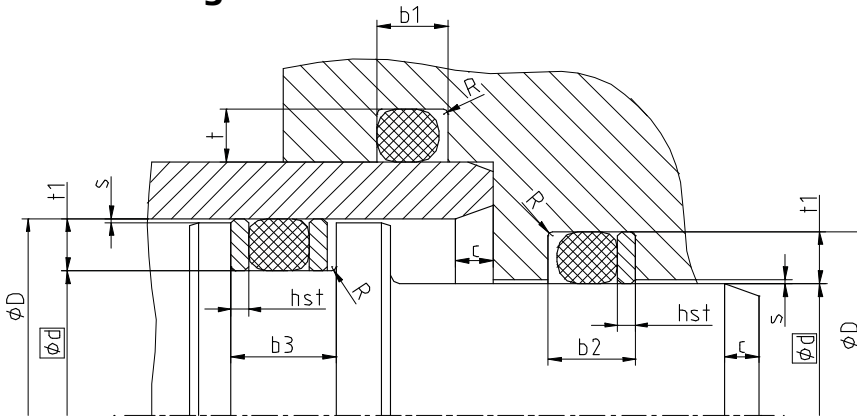
**Rotary Seal R12-F**  
Profile

**100 x 85,8 x 1,4**  
D x d x L

**SKF ECOFLON 2 / 1.4310**  
Sealing material / Spring



## Seal housing



pressure	constant		pulsating	
Surface roughness	Rtmax	Ra	Rtmax	Ra
Sliding Surface <sup>1</sup>	12,5 µm	3,2 µm	6,3 µm	1,6 µm
Bottom of groove <sup>2</sup>				
Groove face				

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

<sup>1</sup> Rtmax / Ra for dynamic application: 1,6 µm / 0,4 µm

<sup>2</sup> Rtmax / Ra for dynamic application: 6,3 µm / 1,6 µm

## Standard dimensions

OD (AS 568A <sup>1</sup> )	OD (ISO 3601 <sup>2</sup> )	t	b1	t1	b2	b3	R	h <sub>ST</sub>	c	s
1,78	1,8	1,35	2,5	1,58	3,5	4,5	0,3	1	3	f7 / H8
2,62	2,65	2,18	3,5	2,42	5,0	6,5	0,3	1,5	3,5	
3,53	3,55	3	4,4	3,70	5,9	7,4	0,5	1,5	4	
5,33	5,3	4,5	6,7	5,60	8,4	10,1	0,6	1,7	5	
6,99	7	5,94	8,8	7,37	10,8	12,8	0,8	2	6	
10	10	8,5	12,5	10,5	15,0	17,5	1	2,5	10	
12	12	10,2	15,5	12,85	18,5	21,5	1	3	12	
15	15	12,75	19	15,88	22	25	1	3	15	

<sup>1</sup> American Standard ; <sup>2</sup> DIN 3771

## Operating parameters

Sealing material	Temperature	max. speed	max. pressure <sup>1</sup>
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	only recommended for static application	<b>600 bar (60 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C		
S-ECOPUR™	-20 °C...+110 °C		
T-ECOPUR™	-50 °C...+110 °C		
G-ECOPUR™	-30 °C...+110 °C		160 bar (16 MPa)
SKF ECORUBBER-1	-30 °C...+100 °C		
SKF ECORUBBER-2	-20 °C...+200 °C		
SKF ECORUBBER-3	-50 °C...+150 °C		
SKF ECORUBBER-H	-25 °C...+150 °C		
SKF ECOSIL	-60 °C...+200 °C		
SKF ECOFLON 1	-200 °C...+260 °C	160 bar (16 MPa)	

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> We recommend the use of backup rings for ECOPUR above 400 bar and for SKF ECORUBBER above 100 bar.

## Ordering example

R13, Inner diameter d=100mm, OD=3,53, ECOPUR®

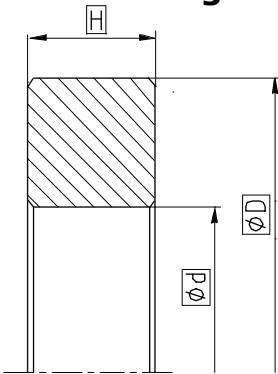
**Rotary Seal R13**  
Profile

**100 x 3,53**  
d x OD

**ECOPUR®**  
Sealing material

### Rotary seals

### Seal housing



Ordering dimensions...□

### Standard dimensions

Because of the design diversity of this profile, it is not useful to classify it. The size and position of the tolerance field have to be considered and maybe adapted to special functions.

### Operating parameters

Sealing material	Temperature
ECOPUR®	<b>-30 °C...+110 °C</b>
H-ECOPUR™	-20 °C...+110 °C
S-ECOPUR™	-20 °C...+110 °C
T-ECOPUR™	-50 °C...+110 °C
G-ECOPUR™	-30 °C...+110 °C
X-ECOPUR™	-30 °C...+110 °C
XH-ECOPUR™	-20 °C...+110 °C
XS-ECOPUR™	-20 °C...+110 °C
G-ECOPUR 54 D™	-20 °C...+110 °C
SKF ECORUBBER-1	-30 °C...+100 °C
SKF ECORUBBER-2	-20 °C...+200 °C
SKF ECORUBBER-3	-50 °C...+150 °C
SKF ECORUBBER-H	-25 °C...+150 °C
SKF ECOSIL	-60 °C...+200 °C
<b>SKF ECOTAL</b>	<b>-50 °C...+100 °C</b>
SKF ECOMID	-40 °C...+100 °C
SKF ECOWEAR 1000	-200 °C...+260 °C
ECOPA EK	-60 °C...+260 °C
SKF ECOFLON 1	-200 °C...+260 °C
SKF ECOFLON 2	-200 °C...+260 °C
SKF ECOFLON 3	-200 °C...+260 °C
SKF ECOFLON 3F	-200 °C...+260 °C
SKF ECOFLON 4	-200 °C...+260 °C
SKF ECOTEX	-40 °C...+120 °C

### Ordering example

R14, d=85mm, D=100mm, L=2mm, SKF ECOTAL

**Rotary Seal R14**  
Profile

**85 x 100 x 2**  
d x D x H

**SKF ECOTAL**  
Sealing material

# Seal data sheet

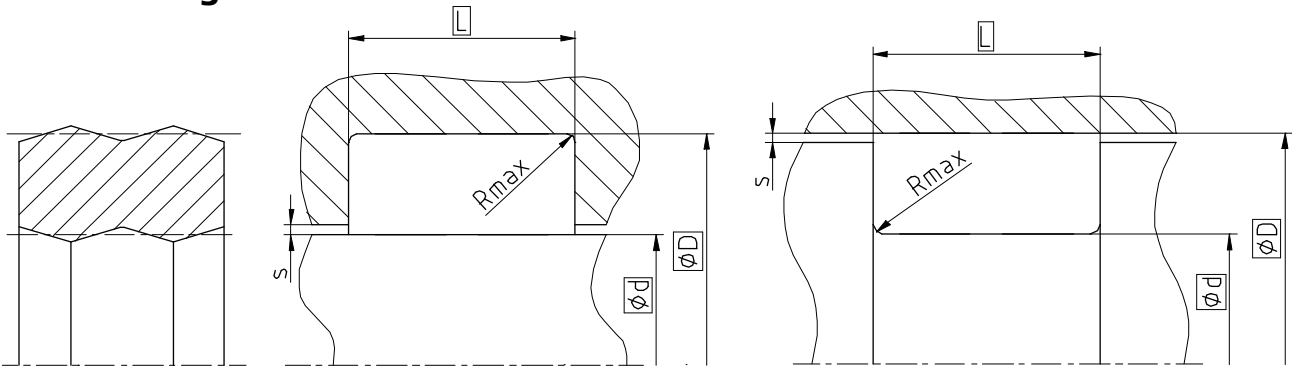
## Rotary seals

R15-P



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød h9	ØD H8	L +0,2	Rmax	s
≥ 5 ... < 15	d + 2,5	3,3	0,3	g6 / H8
> 15 ... ≤ 75	d + 5	5,4		
> 75 ... ≤ 150	d + 8	7,7		
> 150 ... ≤ 200	d + 10	9,3	0,6	
> 200 ... ≤ 350	d + 15	13		
> 350 ... ≤ 600	d + 20	17		

### Operating parameters

Sealing material	Temperature	max. speed	max. pressure
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	only recommended for static applications	<b>400 bar (40 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C		
S-ECOPUR™	-20 °C...+110 °C		
T-ECOPUR™	-50 °C...+110 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously.

### Ordering example

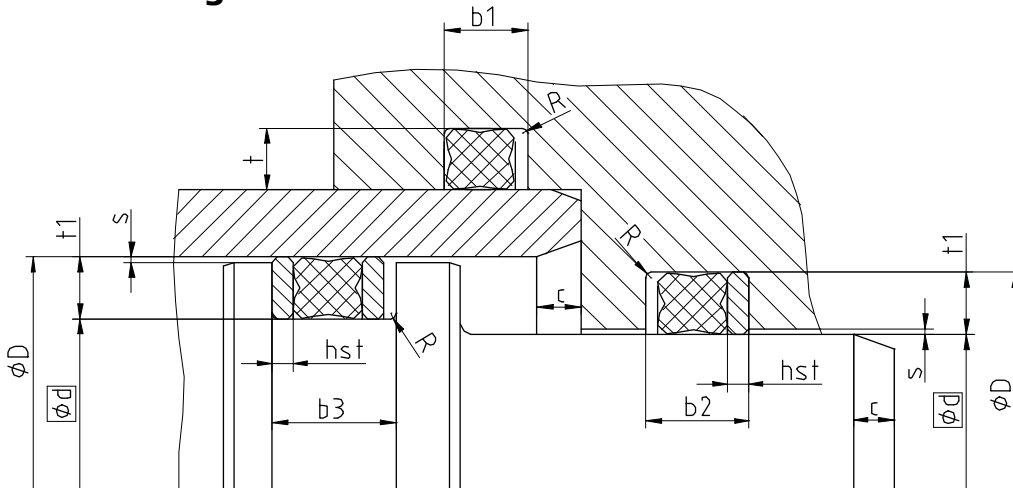
R15-P, d=100mm, D=108mm, L=7,7mm, ECOPUR®

**Rotary Seal R15-P**  
Profile

**100 x 108 x 7,7**  
d x D x L

**ECOPUR®**  
Sealing material

### Seal housing



pressure	constant		pulsating	
Surface roughness	Rtmax	Ra	Rtmax	Ra
Sliding Surface <sup>1</sup>	6,3 µm	1,6 µm	4 µm	0,8 µm
Bottom of groove <sup>2</sup> Groove face <sup>2</sup>	12,5 µm	3,2 µm	6,3 µm	1,6 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

<sup>1</sup> Rtmax / Ra for dynamic application: 1,6 µm / 0,4 µm

<sup>2</sup> Rtmax / Ra for dynamic application: 6,3 µm / 1,6 µm

### Standard dimensions

OD (AS 568A <sup>1</sup> )	OD (ISO 3601 <sup>2</sup> )	t	b1	t1	b2	b3	R	h <sub>ST</sub>	c	s
2,62	2,65	2,25	3	2,35	4,4	5,8	0,3	1,4	3,5	0,08
3,53	3,55	3,1	4	3,21	5,4	6,8	0,4	1,4	4	0,08
5,33	5,3	4,75	6	4,89	7,7	9,4	0,4	1,7	5	0,10
6,99	7	6,2	8	6,40	10,5	13	0,6	2,5	6	0,10

<sup>1</sup> American Standard ; <sup>2</sup> DIN 3771

### Operating parameters

Sealing material	Temperature	max. speed	max. pressure
<b>SKF ECORUBBER-1</b>	<b>-30 °C...+100 °C</b>	only recommended for static applications	<b>50 bar (5 MPa)</b>
SKF ECORUBBER-2	-50 °C...+150 °C		
SKF ECORUBBER-3	-20 °C...+200 °C		
SKF ECORUBBER-H	-25 °C...+150 °C		
SKF ECOSIL	-60 °C...+200 °C		-
SKF ECOFLAS	-10 °C...+200 °C		50 bar (5 MPa)

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously.

### Ordering example

R16, D=100mm, OD=3,55, SKF ECORUBBER-1

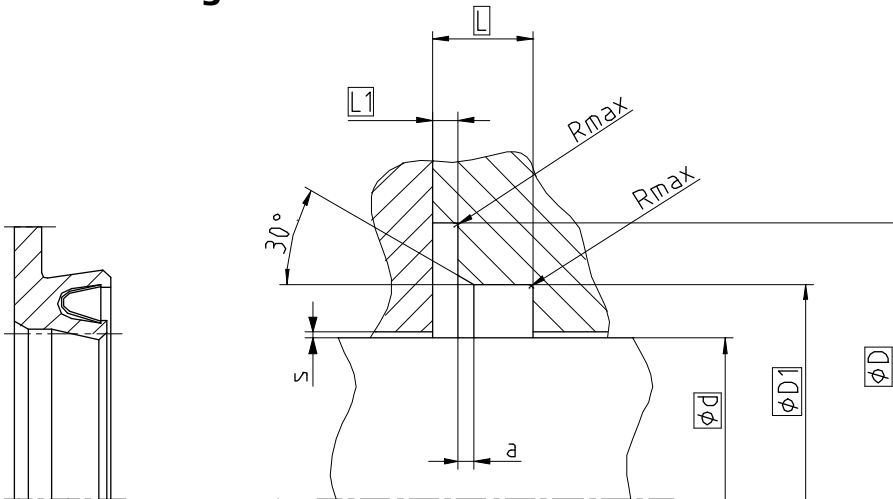
**Rotary Seal R16**  
Profile

**100 x 3,55**  
D x OD

**SKF ECORUBBER-1**  
Sealing material

## Rotary seals

## Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions... □

**Hardness:** min. 45 HRC (55 HRC recommended),  
Hardened depth > 0,3mm

Bearing area: 50...95% and a cutting depth of  
0,5xRz based on Cref = 0%

## Standard dimensions

Ød f8	ØD H10	ØD1 H9	L +0,2	L1 (-Tol)	Rmax	max. radial extrusion gap s*		
						20 bar	100 bar	150 bar
≥ 5 ... < 20	d + 9,0	d + 5,0	3,6	0,85 (-0,10)	0,4	0,25	0,15	0,10
≥ 20 ... < 40	d + 12,5	d + 7,0	4,8	1,35 (-0,10)		0,35	0,20	0,15
≥ 40 ... < 400	d + 17,5	d + 10,5	7,1	1,80 (-0,15)		0,50	0,25	0,20
≥ 400	d + 22,0	d + 14,0	9,5	2,80 (-0,20)		0,60	0,30	0,25

\* Extrusion gap applies to a temperature of 80 °C, higher temperatures require lower values.

## Operating parameters

Sealing material	Spring	Temperature	max. speed	max. pressure <sup>1</sup>
SKF ECOFLON 1	<b>1.4310</b>	<b>-200 °C...+260 °C</b>	<b>2 m/s</b>	<b>150 bar (15 MPa)</b>
SKF ECOFLON 2				
SKF ECOFLON 3				
<b>SKF ECOFLON 4</b>				

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> Pressure ratings depend on the size of the extrusion gap.

## Ordering example

R19-F, d=100mm, D=117,5mm, D1=110,5mm, L=7,1mm, L1=1,8mm, SKF ECOFLON 4 / 1.4310

**Rotary Seal R19-F**  
Profile

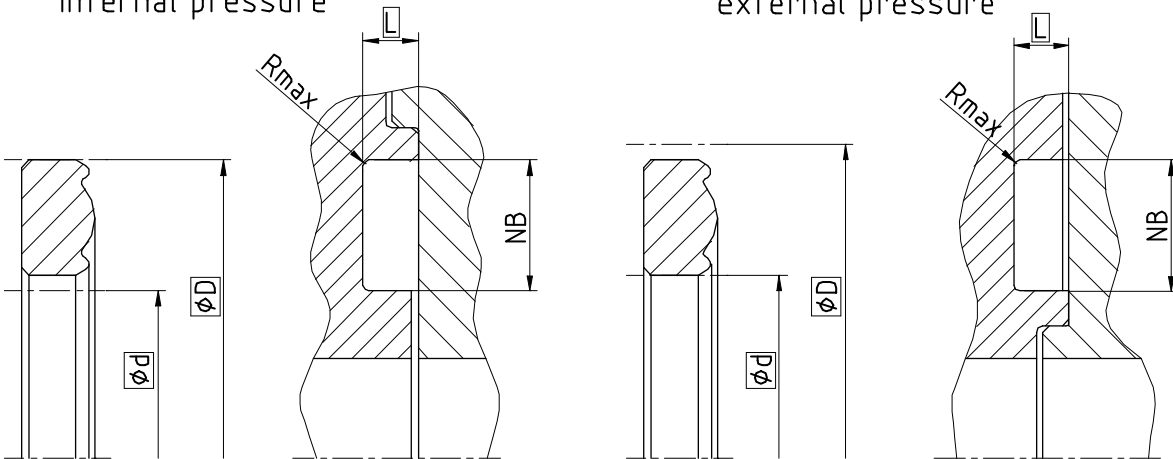
**100 x 117,5/110,5 x 7,1/1,8**  
d x D/D1 x L/L1

**SKF ECOFLON 4 / 1.4310**  
Sealing material / Spring

### Seal housing

internal pressure

external pressure



pressure	constant		pulsating	
	Rtmax	Ra	Rtmax	Ra
Surface roughness				
Sliding Surface				
Bottom of groove	12,5 µm	3,2 µm	6,3 µm	1,6 µm
Groove face				

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød h11	c/s	L +0,2	Rmax
≥ 5 ... ≤ 75	7,5	2,5	0,4
> 75 ... ≤ 100	8	4	
> 100 ... ≤ 150	10	5	
> 150 ... ≤ 200	12,5	6	
> 200 ... ≤ 350	15	7,5	
> 350 ... ≤ 600	20	10	

Standard definition for this profile is inner pressure.

Ød h11 = ØD H11

### Operating parameters

Sealing material	Temperature	max. speed	max. pressure
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	only recommended for static applications	<b>800 bar (80 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C		
S-ECOPUR™	-50 °C...+110 °C		
T-ECOPUR™	-20 °C...+110 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Standard of this profile is inner pressure.

### Ordering example

R20-P, d=100mm, D=108mm, L=7,7mm, ECOPUR®

**Rotary Seal R20-P**  
Profile

**100 x 108 x 7,7**  
d x D x L

**ECOPUR®**  
Sealing material

# Seal data sheet

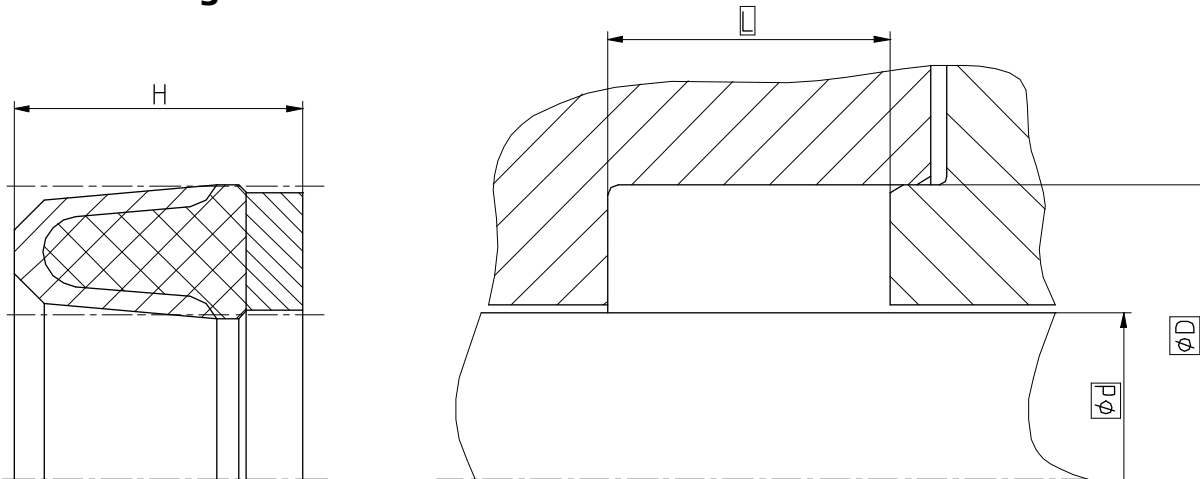
## Rotary seals

R30-A



2008-09

### Seal housing



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

minimum nominal inside diameter  $\varnothing d \geq 5\text{mm}$

This is not a standard profile and serves as a replacement for an existing installation space. New constructions should use standard profiles.

### Operating parameters

Sealing material	casing	Backup ring	Temperature	max. speed	max. pressure
SKF ECORUBBER-1	SKF ECOFLON 1 SKF ECOFLON 2 SKF ECOFLON 3 SKF ECOFLON 4	SKF ECOTAL SKF ECOMID <sup>1</sup>	-30 °C...+100 °C	0,5 m/s	500 bar (50 MPa)
SKF ECORUBBER-2			-20 °C...+100 °C		
<b>SKF ECORUBBER-3</b>			<b>-40 °C...+100 °C</b>		
SKF ECORUBBER-H		-25 °C...+100 °C			
SKF ECORUBBER-2		SKF ECOPAЕК	-20 °C...+200 °C		1000 bar (100 MPa)
SKF ECORUBBER-3			-50 °C...+150 °C		
SKF ECORUBBER-H			-25 °C...+150 °C		
SKF ECOFLAS			-10 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously.

<sup>1</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

### Ordering example

R30-A, d=100mm, D=108mm, L=10mm, SKF ECORUBBER-3 / SKF ECOFLON 1 / SKF ECOTAL

**Rotary Seal R30-A 100 x 108 x 10 SKF ECORUBBER-3 / SKF ECOFLON 1 / SKF ECOTAL**

Profile

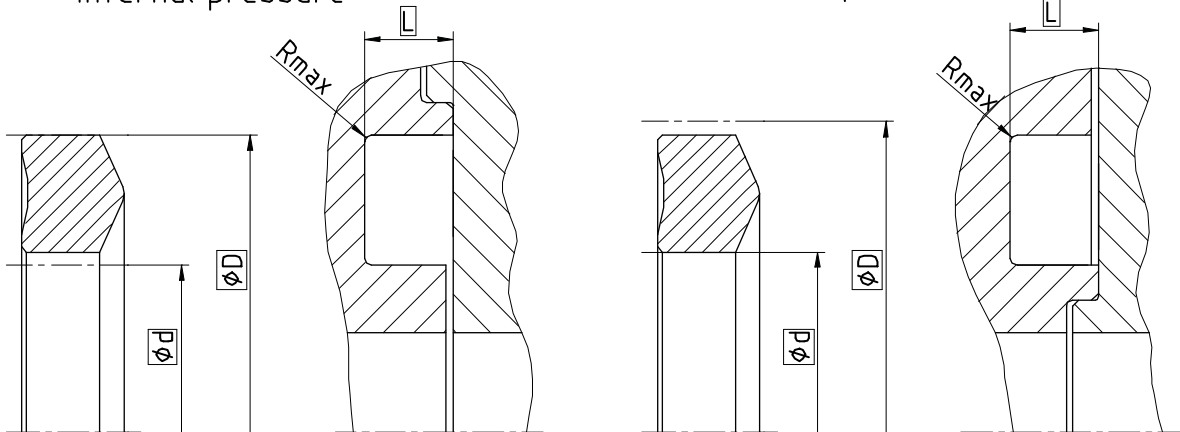
d x D x L

Sealing material / casing / Backup ring

## Seal housing

internal pressure

external pressure



Surface roughness	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

minimum nominal inside diameter  $\varnothing d \geq 5\text{mm}$   
Standard definition for this profile is inside pressure.

OD (AS 568A <sup>1</sup> )	OD (ISO 3601 <sup>2</sup> )	NB	L	R
1,78	1,8	2	1,4	0,4
2,62	2,65	3	2,25	
3,53	3,55	4	3,1	
5,33	5,3	6	4,75	
6,99	7	8	6,2	

<sup>1</sup> American Standard ; <sup>2</sup> DIN 3771

## Operating parameters

Sealing material	Temperature	max. speed	max. pressure
<b>ECOPUR®</b>	<b>-30 °C...+110 °C</b>	only recommended for static applications	<b>800 bar (80 MPa)</b>
H-ECOPUR™	-20 °C...+110 °C		
S-ECOPUR™	-20 °C...+110 °C		
T-ECOPUR™	-50 °C...+110 °C		
G-ECOPUR™	-30 °C...+110 °C		
SKF ECORUBBER-1	-30 °C...+100 °C		250 bar (25 MPa)
SKF ECORUBBER-2	-20 °C...+200 °C		
SKF ECORUBBER-3	-50 °C...+150 °C		
SKF ECORUBBER-H	-25 °C...+150 °C		
SKF ECOFLAS	-10 °C...+200 °C		
SKF ECOSIL	-60 °C...+200 °C		

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously.

## Ordering example

R30-A, d=100mm, D=110mm, L=5mm, ECOPUR®

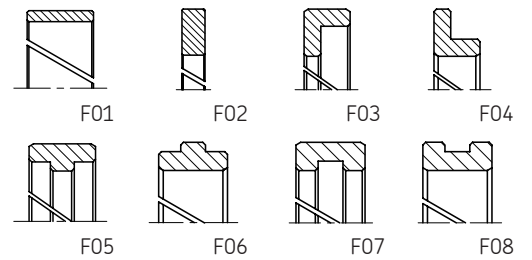
**Rotary Seal R35-A**  
Profile

**100 x 110 x 5**  
d x D x L

**ECOPUR®**  
Sealing material



# Guide Elements



# Seal data sheet

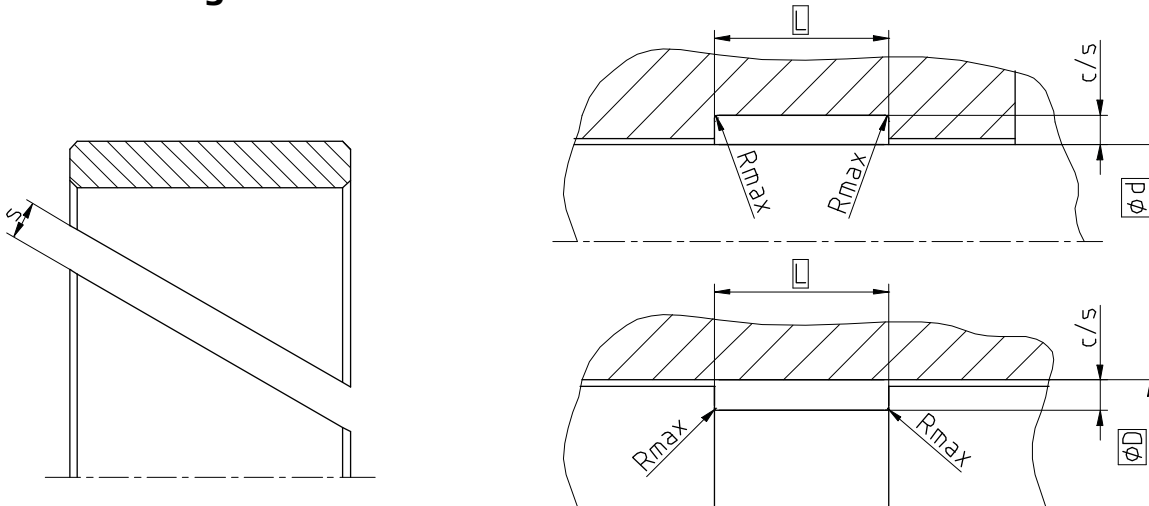
## Guide rings

F01



2008-09

### Seal housing



Sealing material	PU/Elastomers		PTFE	
	Rtmax	Ra	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

inside dynamic surface		outside dynamic surface		c/s	L +0,2	Rmax
ød f8	øD H9	øD H9	ød f8			
≥ 6 ... < 30	d + 3	≥ 6 ... < 30	D - 3	1,5	4	0,3
≥ 30 ... < 50	d + 3	≥ 30 ... < 50	D - 3	1,5	5,6	
≥ 50 ... < 100	d + 5	≥ 50 ... < 100	D - 5	2,5	9,7	
≥ 100 ... ≤ 800	d + 5	≥ 100 ... ≤ 800	D - 5	2,5	15	
> 800	d + 8	> 800	D - 8	4	25	

\* cutting gap s : values depend on material and temperature. For detailed information please refer to the profile description.

### Operating parameters

guiding material	Temperature	max. speed	Specific load <sup>2</sup>
SKF ECOFLON 2	-200 °C...+200 °C	4 m/s	3,0 N/mm <sup>2</sup>
SKF ECOFLON 3	-200 °C...+200 °C	5 m/s	4,5 N/mm <sup>2</sup>
SKF ECOFLON 60% Bz.	-200 °C...+200 °C	5 m/s	7,5 N/mm <sup>2</sup>
<b>SKF ECOTAL<sup>1</sup></b>	<b>-50 °C...+100 °C</b>	<b>4 m/s</b>	<b>25 N/mm<sup>2</sup></b>
SKF ECOMID	-40 °C...+100 °C	4 m/s	25 N/mm <sup>2</sup>
SKF ECOTEX	-40 °C...+130 °C	4 m/s	90 N/mm <sup>2</sup>

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

<sup>2</sup> Depending on temperature and allowed compression. Detailed information see profile description.

### Ordering example

F01, d=100mm, D=105mm, L=2,5mm, SKF ECOTAL

**Guide Ring F01**  
Profile

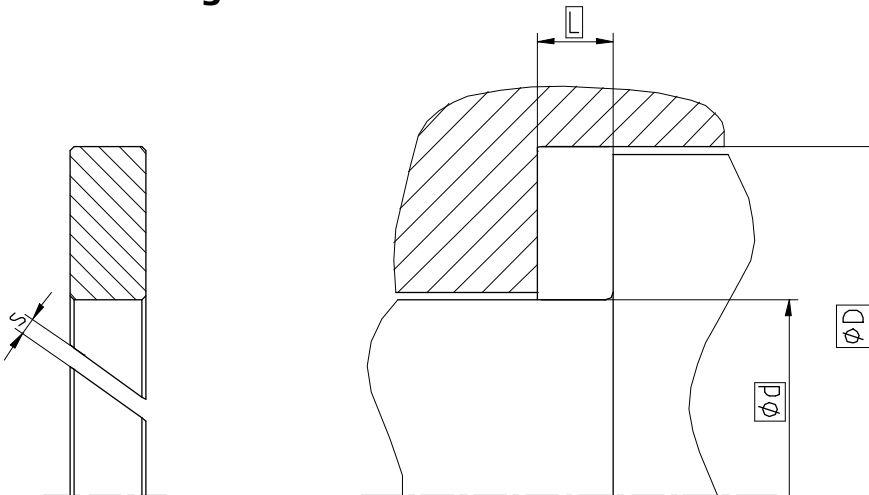
**100 x 105 x 2,5**  
d x D x L

**SKF ECOTAL**  
guiding material

**ECONOMOS**

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## Seal housing



Sealing material	PU/Elastomers		PTFE	
	Rtmax	Ra	Rtmax	Ra
Sliding Surface	≤ 2,5 μm	0,1...0,5 μm	≤ 2 μm	0,05...0,3 μm
Bottom of groove	≤ 6,3 μm	≤ 1,6 μm	≤ 6,3 μm	≤ 1,6 μm
Groove face	≤ 15 μm	≤ 3 μm	≤ 15 μm	≤ 3 μm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

minimum nominal inside diameter  $\varnothing d \geq 3\text{mm}$

This is not a standard profile and serves as a replacement for an existing installation space. New constructions should use standard profiles.

## Operating parameters

Guiding material	Temperature	max. speed	Specific load <sup>2</sup>
SKF ECOFLON 2	-200 °C...+200 °C	4 m/s	3,0 N/mm <sup>2</sup>
SKF ECOFLON 3	-200 °C...+200 °C	5 m/s	4,5 N/mm <sup>2</sup>
SKF ECOFLON 60% Bz.	-200 °C...+200 °C	5 m/s	7,5 N/mm <sup>2</sup>
<b>SKF ECOTAL</b>	<b>-50 °C...+100 °C</b>	<b>4 m/s</b>	<b>25 N/mm<sup>2</sup></b>
SKF ECOMID	-40 °C...+100 °C	4 m/s	25 N/mm <sup>2</sup>
SKF ECOTEX	-40 °C...+130 °C	4 m/s	90 N/mm <sup>2</sup>

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

<sup>2</sup> Depending on temperature and allowed compression. Detailed information see profile description.

## Ordering example

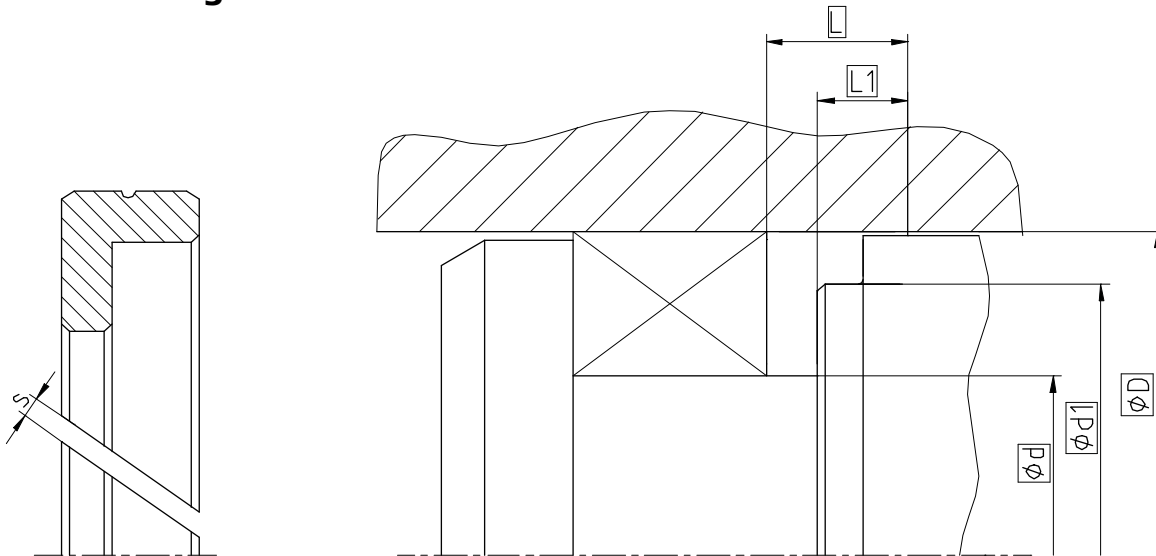
F02, d=100mm, D=105mm, L=2,5mm, SKF ECOTAL

**Guide Ring F02**  
Profile

**100 x 105 x 2,5**  
d x D x L

**SKF ECOTAL**  
Guiding material

## Seal housing



Sealing material	PU/Elastomers		PTFE	
	Rtmax	Ra	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

ØD H9	Ød <sup>1</sup> h10	Ød1 h8	L +0,2	L1 +0,2
≥ 20 ... < 50	D - 10	D - 3	6,5	4
≥ 50 ... < 80	D - 15	D - 4	8	4
≥ 80 ... < 150	D - 20	D - 5	10,5	5,5
≥ 150 ... ≤ 400	D - 25	D - 6	13,4	7
> 400 ... ≤ 750	D - 30	D - 8	14,2	7
> 750	D - 40		15	7

Basic version: with a cutting gap  $s > 0$  allow no supporting function. For supporting function a cutting gap  $s=0$  and a spiral groove is used.

<sup>1</sup> Cross section usually depends on the seal profile.

cutting gap  $s$  : values depend on material and temperature. For detailed information please refer to the profile description.

## Operating parameters

Guiding material	Temperature	max. speed	Specific load <sup>2</sup>
SKF ECOFLON 2	-200 °C...+200 °C	4 m/s	3,0 N/mm <sup>2</sup>
SKF ECOFLON 3	-200 °C...+200 °C	5 m/s	4,5 N/mm <sup>2</sup>
SKF ECOFLON 60% Bz.	-200 °C...+200 °C	5 m/s	7,5 N/mm <sup>2</sup>
<b>SKF ECOTAL</b>	<b>-50 °C...+100 °C</b>	<b>4 m/s</b>	<b>25 N/mm<sup>2</sup></b>
SKF ECOMID	-40 °C...+100 °C	4 m/s	25 N/mm <sup>2</sup>
SKF ECOTEX	-40 °C...+130 °C	4 m/s	90 N/mm <sup>2</sup>

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

<sup>2</sup> Depending on temperature and allowed compression. Detailed information see profile description.

## Ordering example

F03, D=100mm, d=80mm, d1=95mm, L=10,5mm L1=5,5mm, SKF ECOTAL

**Guide Ring F03**

Profile

**100 x 80/95 x 10,5/5,5**

D x d/d1 x L/L1

**SKF ECOTAL**

Guiding material

# Seal data sheet

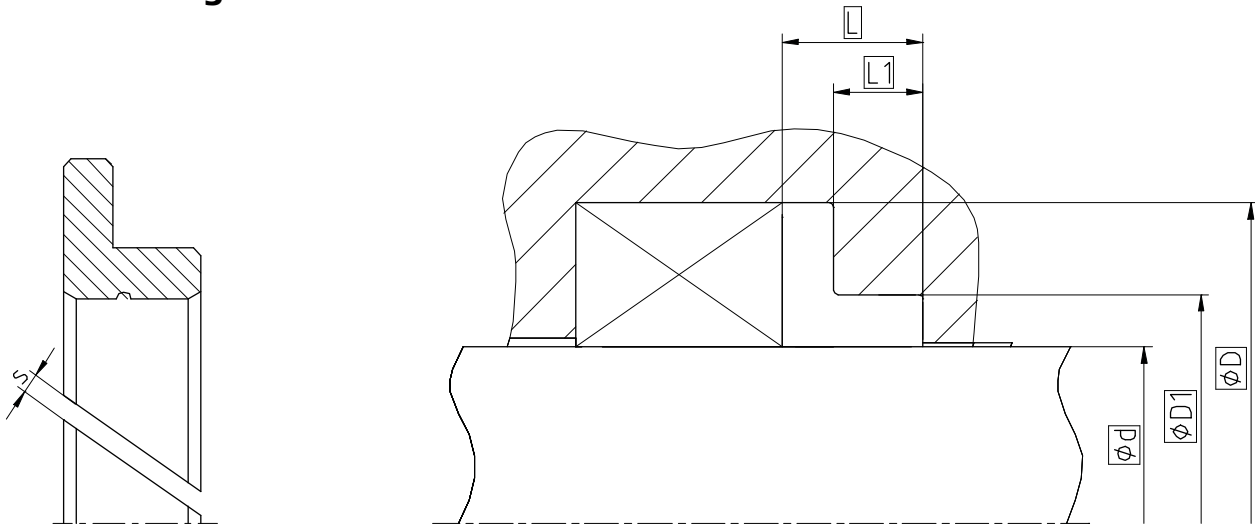
## Guide rings

F04



2008-09

### Seal housing



Sealing material	PU/Elastomers		PTFE	
	Rtmax	Ra	Rtmax	Ra
Sliding Surface	≤ 2,5 μm	0,1...0,5 μm	≤ 2 μm	0,05...0,3 μm
Bottom of groove	≤ 6,3 μm	≤ 1,6 μm	≤ 6,3 μm	≤ 1,6 μm
Groove face	≤ 15 μm	≤ 3 μm	≤ 15 μm	≤ 3 μm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD <sup>1</sup> H10	ØD1 H8	L +0,2	L1 +0,2
≥ 4 ... < 50	d +10	d + 3	6,5	4
≥ 50 ... < 80	d +15	d + 4	8	4
≥ 80 ... < 150	d +20	d + 5	10,5	5,5
≥ 150 ... ≤ 400	d +25	d + 6	13,4	7
> 400 ... ≤ 750	d +30	d + 8	14,2	7
> 750	d +40		15	7

Basic version: with a cutting gap  $s > 0$  allow no supporting function. For supporting function a cutting gap  $s=0$  and a spiral groove is used.

<sup>1</sup> Cross section usually depends on the seal profile.

cutting gap  $s$  : values depend on material and temperature. For detailed information please refer to the profile description.

### Operating parameters

Guiding material	Temperature	max. speed	Specific load <sup>2</sup>
SKF ECOFLON 2	-200 °C...+200 °C	4 m/s	3,0 N/mm <sup>2</sup>
SKF ECOFLON 3	-200 °C...+200 °C	5 m/s	4,5 N/mm <sup>2</sup>
SKF ECOFLON 60% Bz.	-200 °C...+200 °C	5 m/s	7,5 N/mm <sup>2</sup>
<b>SKF ECOTAL</b>	<b>-50 °C...+100 °C</b>	<b>4 m/s</b>	<b>25 N/mm<sup>2</sup></b>
SKF ECOMID	-40 °C...+100 °C	4 m/s	25 N/mm <sup>2</sup>
SKF ECOTEX	-40 °C...+130 °C	4 m/s	90 N/mm <sup>2</sup>

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

<sup>2</sup> Depending on temperature and allowed compression. Detailed information see profile description.

### Ordering example

F04, d=100mm, D=80mm, D1=95mm, L=10,5mm L1=5,5mm, SKF ECOTAL

**Guide Ring F04**

Profile

**100 x 80/95 x 10,5/5,5**

d x D/D1 x L/L1

**SKF ECOTAL**

Guiding material

**ECONOMOS**

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# Seal data sheet

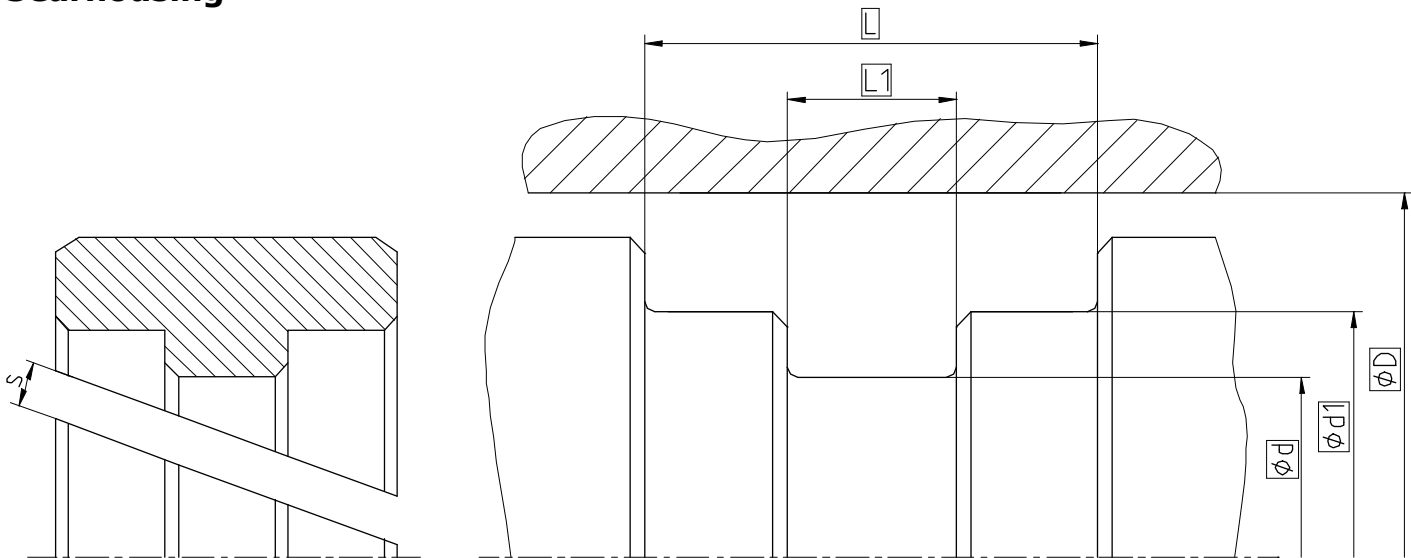
## Guide rings

F05



2008-09

### Seal housing



Sealing material	PU/Elastomers		PTFE	
Surface roughness	Rtmax	Ra	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

ØD H9	Ød h10	Ød1 h8	Ød2	L +0,2	L1 +0,2
≥ 28 ... ≤ 36	D - 6	D - 2,8	D - 0,35	8,5	3
> 36 ... ≤ 60	D - 7,5	D - 3,2	D - 0,4	10,5	3,5
> 60 ... ≤ 90	D - 9	D - 3,5	D - 0,5	15	5
> 90 ... ≤ 150			D - 0,6		
> 150 ... ≤ 200	D - 16	D - 7,1	D - 0,7	20,3	8
> 200	D - 17	D - 7,5	D - 0,8	25	

\* cutting gap s : values depend on material and temperature. For detailed information please refer to the profile description.

### Operating parameters

Guiding material	Temperature	max. speed	Specific load <sup>2</sup>
SKF ECOFLON 2	-200 °C...+200 °C	4 m/s	3,0 N/mm <sup>2</sup>
SKF ECOFLON 3	-200 °C...+200 °C	5 m/s	4,5 N/mm <sup>2</sup>
SKF ECOFLON 60% Bz.	-200 °C...+200 °C	5 m/s	7,5 N/mm <sup>2</sup>
<b>SKF ECOTAL</b>	<b>-50 °C...+100 °C</b>	<b>4 m/s</b>	<b>25 N/mm<sup>2</sup></b>
SKF ECOMID	-40 °C...+100 °C	4 m/s	25 N/mm <sup>2</sup>
SKF ECOTEX	-40 °C...+130 °C	4 m/s	90 N/mm <sup>2</sup>

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

<sup>2</sup> Depending on temperature and allowed compression. Detailed information see profile description.

### Ordering example

F05, D=100mm, d=91mm, d1=96,5mm, L=15mm, L1=5mm, SKF ECOTAL

**Guide Ring F05**  
Profile

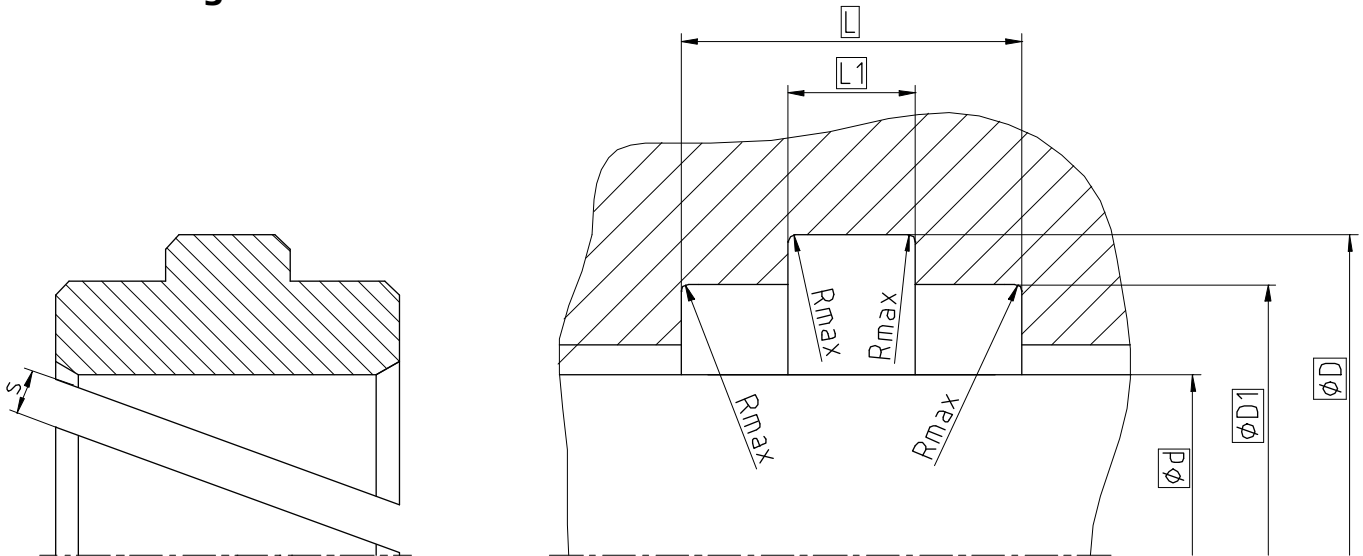
**100 x 91/96,5 x 15/5**  
D x d/d1 x L/L1

**SKF ECOTAL**  
Guiding material

**ECONOMOS**

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### Seal housing



Sealing material	PU/Elastomers		PTFE	
	Rtmax	Ra	Rtmax	Ra
Sliding Surface	≤ 2,5 μm	0,1...0,5 μm	≤ 2 μm	0,05...0,3 μm
Bottom of groove	≤ 6,3 μm	≤ 1,6 μm	≤ 6,3 μm	≤ 1,6 μm
Groove face	≤ 15 μm	≤ 3 μm	≤ 15 μm	≤ 3 μm

Ordering dimensions... □

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

Ød f8	ØD H10	ØD1 H8	ØD2	L +0,2	L1 +0,2
≥ 5 ... ≤ 36	d + 6	d + 2,8	d + 0,35	8,5	3
> 36 ... ≤ 60	d + 7,5	d + 3,2	d + 0,4	10,5	3,5
> 60 ... ≤ 90	d + 9	d + 3,5	d + 0,5	15	5
> 90 ... ≤ 150			d + 0,6		
> 150 ... ≤ 200	d + 16	d + 7,1	d + 0,7	20,3	8
> 200	d + 17	d + 7,5	d + 0,8	25	

\* cutting gap s : values depend on material and temperature. For detailed information please refer to the profile description.

### Operating parameters

Guiding material	Temperature	max. speed	Specific load <sup>2</sup>
SKF ECOFLON 2	-200 °C...+200 °C	4 m/s	3,0 N/mm <sup>2</sup>
SKF ECOFLON 3	-200 °C...+200 °C	5 m/s	4,5 N/mm <sup>2</sup>
SKF ECOFLON 60% Bz.	-200 °C...+200 °C	5 m/s	7,5 N/mm <sup>2</sup>
<b>SKF ECOTAL</b>	<b>-50 °C...+100 °C</b>	<b>4 m/s</b>	<b>25 N/mm<sup>2</sup></b>
SKF ECOMID	-40 °C...+100 °C	4 m/s	25 N/mm <sup>2</sup>
SKF ECOTEX	-40 °C...+130 °C	4 m/s	90 N/mm <sup>2</sup>

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

<sup>2</sup> Depending on temperature and allowed compression. Detailed information see profile description.

### Ordering example

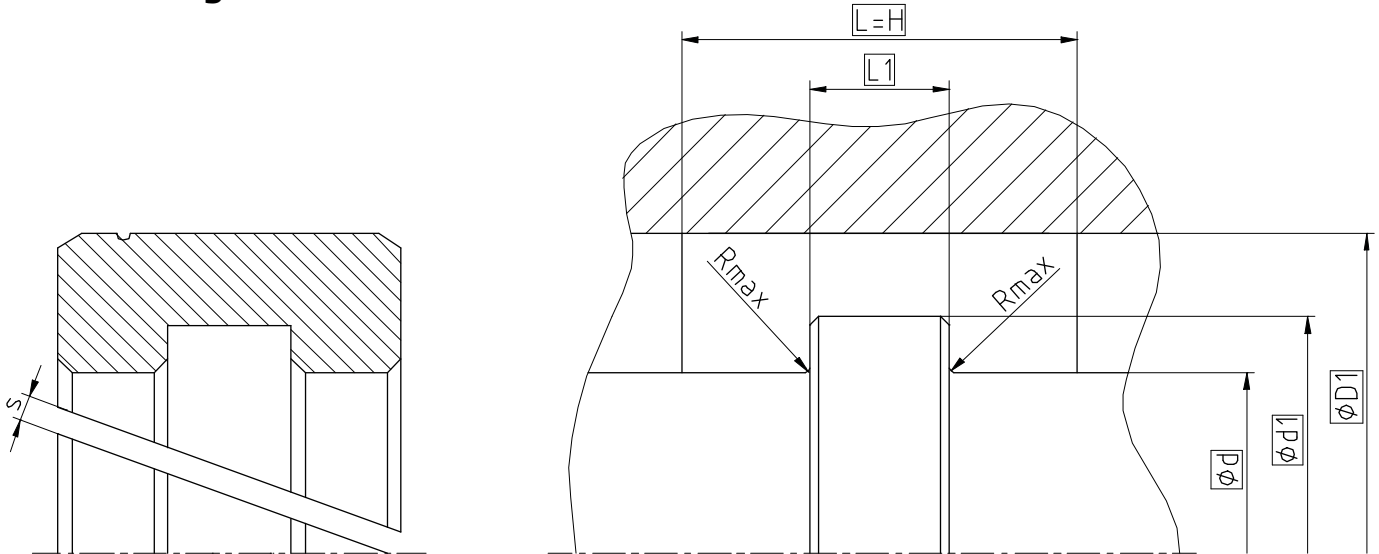
F06, d=100mm, D=109mm, D1=103,5, L=15mm, L1=5mm, SKF ECOTAL

**Guide Ring F06**  
Profile

**100 x 109/103,5 x 15/5**  
d x D/D1 x L/L1

**SKF ECOTAL**  
Guiding material

### Seal housing



Sealing material	PU/Elastomers		PTFE	
	Rtmax	Ra	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

minimum nominal inside diameter  $\varnothing d \geq 22\text{mm}$

Depending on the application, the geometry of the guide element should be adapted to the type of application (please refer to the profile description - Seal housing). Because uncut versions would be pointless for assembly reasons, rotating applications should be avoided. Standard version with cutting gap  $s > 0$  do not allow a supporting function. For a supporting function a cutting gap of  $s=0$  and a spiral groove is provided. cutting gap  $s$ : values depend on material and temperature. For detailed information please refer to the profile description.

### Operating parameters

Guiding material	Temperature	max. speed	Specific load <sup>2</sup>
SKF ECOFLON 2	-200 °C...+200 °C	4 m/s	3,0 N/mm <sup>2</sup>
SKF ECOFLON 3	-200 °C...+200 °C	5 m/s	4,5 N/mm <sup>2</sup>
SKF ECOFLON 60% Bz.	-200 °C...+200 °C	5 m/s	7,5 N/mm <sup>2</sup>
<b>SKF ECOTAL</b>	<b>-50 °C...+100 °C</b>	<b>4 m/s</b>	<b>25 N/mm<sup>2</sup></b>
SKF ECOMID <sup>1</sup>	-40 °C...+100 °C	4 m/s	25 N/mm <sup>2</sup>
SKF ECOTEX	-40 °C...+130 °C	4 m/s	90 N/mm <sup>2</sup>

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup> ≤ Ø260mm: SKF ECOTAL ; > Ø260mm: SKF ECOMID

<sup>2</sup> Depending on temperature and allowed compression. Detailed information see profile description.

### Ordering example

F07, D=100mm, d=91mm, d1=96,5mm, L=15mm, L1=5mm, SKF ECOTAL

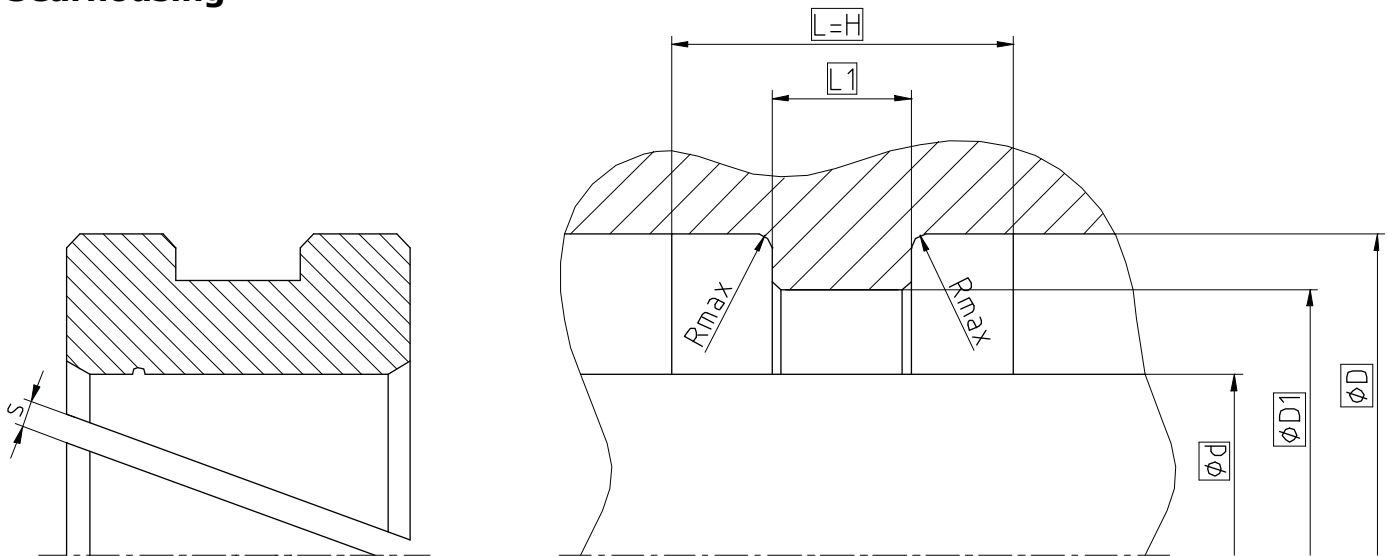
**Guide Ring F07**  
Profile

**100 x 91/96,5 x 15/5**  
D x d/d1 x L/L1

**SKF ECOTAL**  
Guiding material



## Seal housing



Sealing material	PU/Elastomers		PTFE	
	Rtmax	Ra	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm	≤ 15 µm	≤ 3 µm

Ordering dimensions... □

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

minimum nominal inside diameter  $\varnothing d \geq 22\text{mm}$

Depending on the application, the geometry of the guide element should be adapted to the type of application (please refer to the profile description - Seal housing). Because uncut versions would be pointless for assembly reasons, rotating applications should be avoided. Standard version with cutting gap  $s > 0$  do not allow a supporting function. For a supporting function a cutting gap of  $s=0$  and a spiral groove is provided. cutting gap  $s$ : values depend on material and temperature. For detailed information please refer to the profile description.

## Operating parameters

Guiding material	Temperature	max. speed	Specific load <sup>2</sup>
SKF ECOFLON 2	-200 °C...+200 °C	4 m/s	3,0 N/mm <sup>2</sup>
SKF ECOFLON 3	-200 °C...+200 °C	5 m/s	4,5 N/mm <sup>2</sup>
SKF ECOFLON 60% Bz.	-200 °C...+200 °C	5 m/s	7,5 N/mm <sup>2</sup>
<b>SKF ECOTAL</b>	<b>-50 °C...+100 °C</b>	<b>4 m/s</b>	<b>25 N/mm<sup>2</sup></b>
SKF ECOMID <sup>1</sup>	-40 °C...+100 °C	4 m/s	25 N/mm <sup>2</sup>
SKF ECOTEX	-40 °C...+130 °C	4 m/s	90 N/mm <sup>2</sup>

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

<sup>1</sup>  $\leq \varnothing 260\text{mm}$ : SKF ECOTAL ;  $> \varnothing 260\text{mm}$ : SKF ECOMID

<sup>2</sup> Depending on temperature and allowed compression. Detailed information see profile description.

## Ordering example

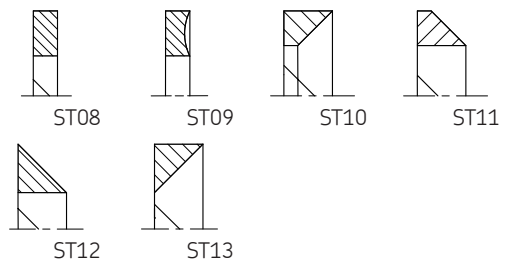
F08,  $d=100\text{mm}$ ,  $D=109\text{mm}$ ,  $D1=103,5$ ,  $L=15\text{mm}$ ,  $L1=5\text{mm}$ , SKF ECOTAL

**Guide Ring F08**  
Profile

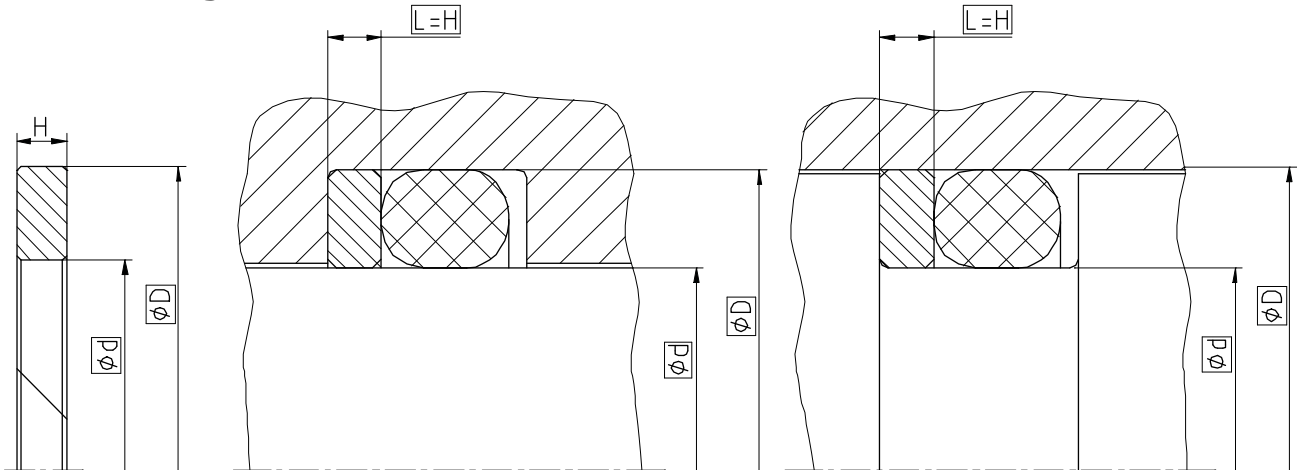
**100 x 109/103,5 x 15/5**  
 $d \times D/D1 \times L/L1$

**SKF ECOTAL**  
Guiding material

# Backup Elements



### Seal housing



Sealing material	PU/Elastomers		PTFE	
	Rtmax	Ra	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

minimum nominal inside diameter  $\varnothing d \geq 4,5\text{mm}$

Profile size, surface data and tolerances are the result of a combination of the relevant application specific sealing material. Standard version: cutting gap 0. cut 45°

### Operating parameters

Backup material	Temperature
ECOPUR®	-30 °C...+110 °C
H-ECOPUR™	-20 °C...+110 °C
T-ECOPUR™	-50 °C...+110 °C
G-ECOPUR™	-30 °C...+110 °C
X-ECOPUR™	-30 °C...+110 °C
XH-ECOPUR™	-20 °C...+110 °C
XS-ECOPUR™	-20 °C...+110 °C
G-ECOPUR 54D™	-30 °C...+110 °C
SKF ECOFLON 1	-200 °C...+260 °C
SKF ECOFLON 2	-200 °C...+260 °C
<b>SKF ECOTAL</b>	<b>-50 °C...+100 °C</b>
SKF ECOMID	-40 °C...+100 °C
SKF ECOPA EK	-60 °C...+260 °C

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

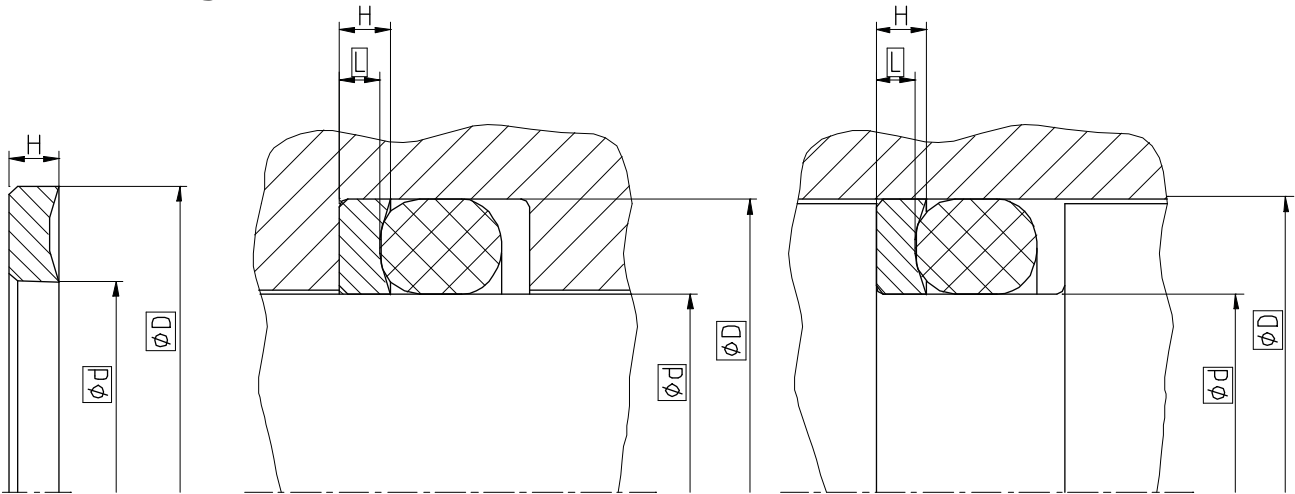
ST08, d=100mm, D=120mm, L=13mm, SKF ECOTAL

**Backup ring ST08**  
Profile

**100 x 120 x 13**  
d x D x L

**SKF ECOTAL**  
Backup ring

## Seal housing



Sealing material	PU/Elastomers		PTFE	
	Rtmax	Ra	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

minimum nominal inside diameter  $\varnothing d \geq 4,5\text{mm}$

Profile size, surface data and tolerances are the result of a combination of the relevant application specific sealing material. Standard version: uncut

## Operating parameters

Backup material	Temperature
ECOPUR®	-30 °C...+110 °C
H-ECOPUR™	-20 °C...+110 °C
T-ECOPUR™	-50 °C...+110 °C
G-ECOPUR™	-30 °C...+110 °C
<b>X-ECOPUR™</b>	<b>-30 °C...+110 °C</b>
XS-ECOPUR™	-20 °C...+110 °C
XH-ECOPUR™	-20 °C...+110 °C
G-ECOPUR 54D™	-30 °C...+110 °C
SKF ECOFLON 1	-200 °C...+260 °C
SKF ECOFLON 2	-200 °C...+260 °C

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

## Ordering example

ST09, d=100mm, D=120mm, L=13mm, X-ECOPUR

**Backup ring ST09**  
Profile

**100 x 120 x 13**  
d x D x L

**X-ECOPUR**  
Backup ring

# Seal data sheet

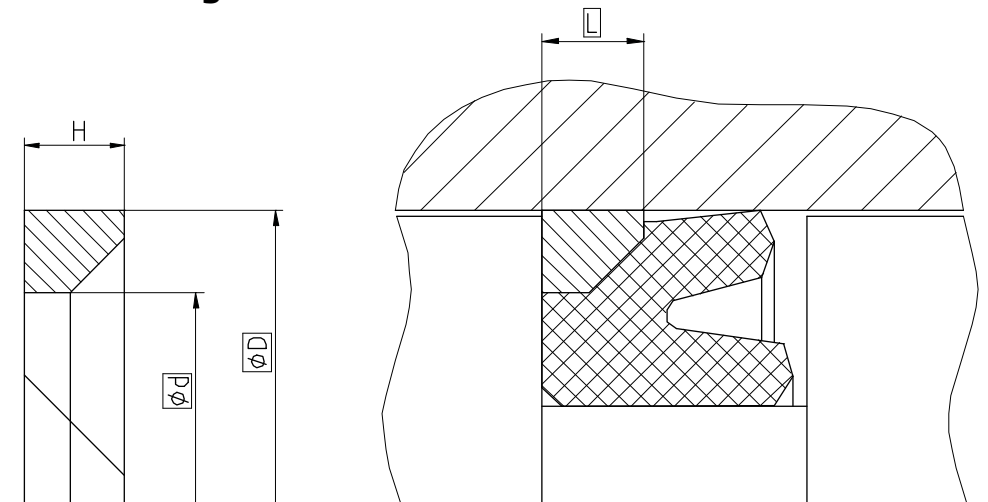
## Backup rings

ST10



2008-09

### Seal housing



Sealing material	PU/Elastomers		PTFE	
	Rtmax	Ra	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

minimum nominal inside diameter  $\varnothing d \geq 4,5\text{mm}$

Profile size, surface data and tolerances are the result of a combination of the relevant application specific sealing material. Standard version: cutting gap 0. cut 45°

### Operating parameters

Backup material	Temperature
<b>SKF ECOTAL</b>	<b>-50 °C...+100 °C</b>
SKF ECOFLON 2	-200 °C...+260 °C
SKF ECOMID	-40 °C...+100 °C
SKF ECOPAEK	-60 °C...+260 °C

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

ST10, D=100mm, d=85mm, L=10mm, SKF ECOTAL

**Backup ring ST10**  
Profile

**100 x 85 x 10**  
D x d x L

**SKF ECOTAL**  
Backup ring

# Seal data sheet

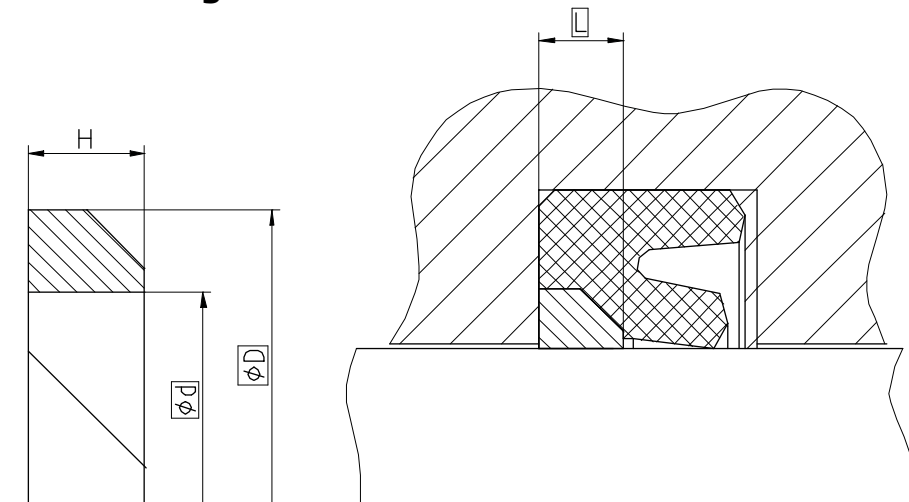
## Backup rings

ST11



2008-09

### Seal housing



Sealing material	PU/Elastomers		PTFE	
	Rtmax	Ra	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

minimum nominal inside diameter  $\varnothing d \geq 4,5\text{mm}$

Profile size, surface data and tolerances are the result of a combination of the relevant application specific sealing material. Standard version: cutting gap 0. cut 45°

### Operating parameters

Backup material	Temperature
<b>SKF ECOTAL</b>	<b>-50 °C...+100 °C</b>
SKF ECOFLON 2	-200 °C...+260 °C
SKF ECOMID	-40 °C...+100 °C
SKF ECOPAEK	-60 °C...+260 °C

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

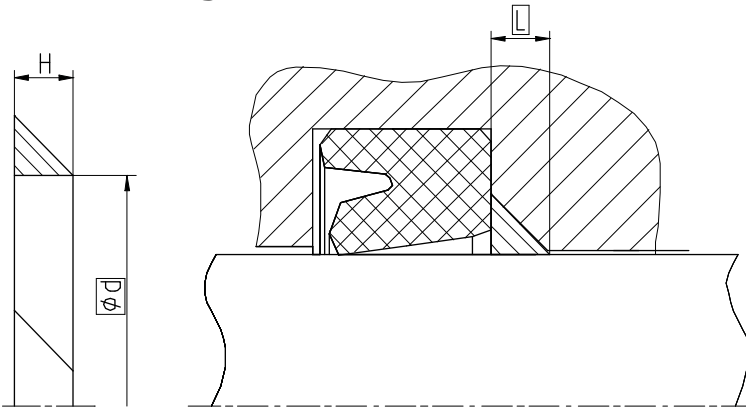
ST11, d=100mm, D=120mm, L=13mm, SKF ECOTAL

**Backup ring ST11**  
Profile

**100 x 120 x 13**  
d x D x L

**SKF ECOTAL**  
Backup ring

### Seal housing



Sealing material	PU/Elastomers		PTFE	
	Rtmax	Ra	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

### Standard dimensions

minimum nominal inside diameter  $\text{Ø}d \geq 4,5\text{mm}$

Profile size, surface data and tolerances are the result of a combination of the relevant application specific sealing material. Standard version: incision gap 0. cut 45°

### Operating parameters

Backup material	Temperature
<b>SKF ECOTAL</b>	<b>-50 °C...+100 °C</b>
SKF ECOFLON 2	-200 °C...+260 °C
SKF ECOMID	-40 °C...+100 °C
SKF ECOPAEK	-60 °C...+260 °C

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

### Ordering example

ST12, d=100mm, L=13mm, SKF ECOTAL

**Backup ring ST12**  
Profile

**100 x 13**  
d x L

**SKF ECOTAL**  
Backup ring

# Seal data sheet

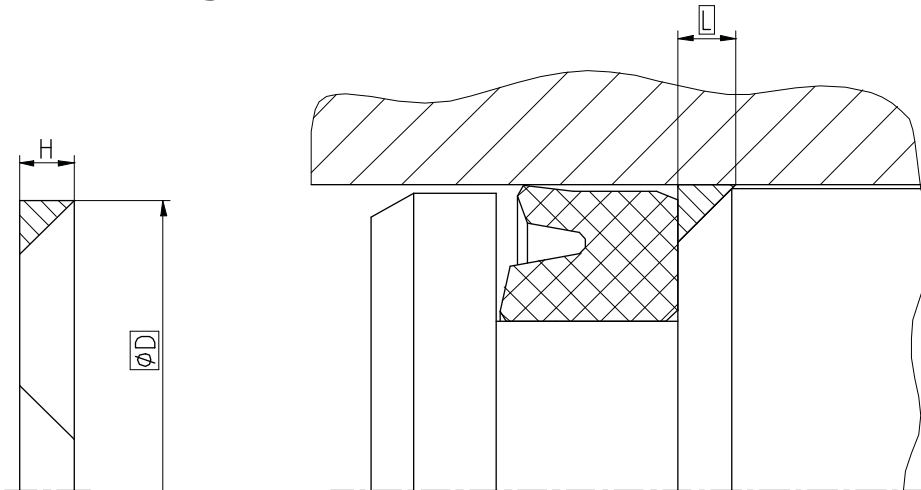
## Backup rings

ST13



2008-09

## Seal housing



Sealing material	PU/Elastomers		PTFE	
	Rtmax	Ra	Rtmax	Ra
Sliding Surface	≤ 2,5 µm	0,1...0,5 µm	≤ 2 µm	0,05...0,3 µm
Bottom of groove	≤ 6,3 µm	≤ 1,6 µm	≤ 6,3 µm	≤ 1,6 µm
Groove face	≤ 15 µm	≤ 3 µm	≤ 15 µm	≤ 3 µm

Ordering dimensions...□

Bearing area: 50...95% and a cutting depth of 0,5xRz based on Cref = 0%

## Standard dimensions

minimum nominal inside diameter  $\varnothing d \geq 4,5\text{mm}$

Profile size, surface data and tolerances are the result of a combination of the relevant application specific sealing material. Standard version: incision gap 0. cut 45°

## Operating parameters

Backup material	Temperature
<b>SKF ECOTAL</b>	<b>-50 °C...+100 °C</b>
SKF ECOFLON 2	-200 °C...+260 °C
SKF ECOMID	-40 °C...+100 °C
SKF ECOPAEK	-60 °C...+260 °C

The stated operation conditions represent general indications. It is recommended not to use all maximum values simultaneously. Surface speed limits apply only to the presence of adequate lubrication film.

## Ordering example

ST13, D=100mm, L=13mm, SKF ECOTAL

**Backup ring ST13**  
Profile

**100 x 13**  
D x L

**SKF ECOTAL**  
Backup ring