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ADVANCED SEALING SOLUTIONS FOR FOOD AND BEVERAGE

Designed for flexibility, compliance, and efficiency

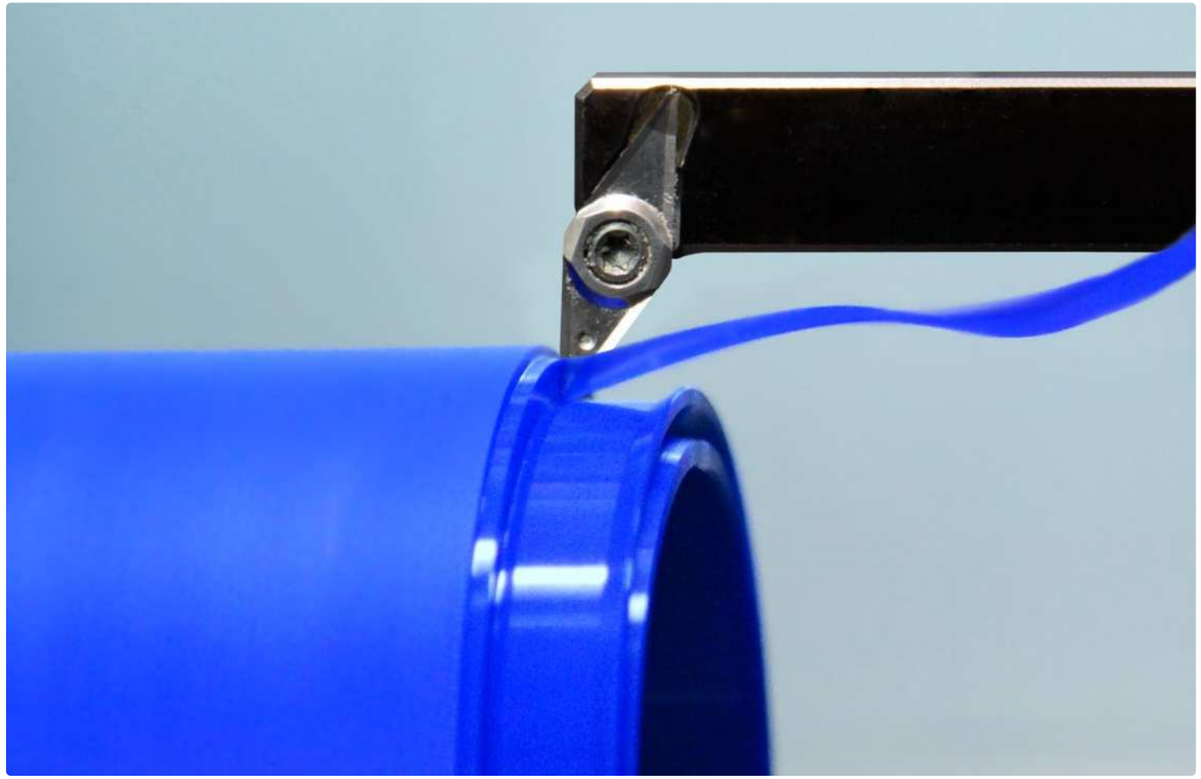
Food-grade seals made-to-order

A range of food-compliant sealing solutions effective in harsh environments

Precision seals for food processing conditions.

Hygienic design minimizes contamination risks.

Custom and standard seals for high-speed production.



The environment dictates seal performance

From extreme temperatures to moist, contamination-prone environments, seals for food and beverage processing equipment have to endure harsh operating conditions and cleaning regimes.
All of this can take a heavy toll on the performance of the sealing solution.

Proactive safeguarding is becoming the norm

FDA guidelines specify that even the smallest speck of metal or plastic in a food product renders it subject to recall. This can be a costly prospect and daunting in terms of brand reputation.
Accordingly, industry demand is rising for more proactive solutions such as food-grade sealing materials with optically detectable debris.

To address similar concerns about bacteria, CIP and SIP systems help processors prevent bacterial growth. But caustic antibacterial cleaning agents and high-pressure washdowns increase the risk of failed seals, damaged sealing interfaces and unplanned downtime.

Benefit from the seal engineering expertise of SKF

SKF has developed asset solutions for a range of industry application challenges. Drawing on this expertise has allowed SKF to take conventional seal designs several steps further and develop hygienic sealing solutions with food-grade materials.

The result is a standardized yet fully customizable range of seals that deliver superior performance in key food and beverage applications.

The flexibility and speed you need for new designs or replacement

With our broad manufacturing footprint, we can offer seals in standard profiles or fully customized designs. Our moulded and machined seal production capabilities enable everything from rapid prototyping to serial production to replacement parts. Whether you are an OEM who needs to create seal prototypes for testing, or an end-user who needs a replacement solution, SKF sealing solutions can help deliver:

- Increased productivity and reliability
- Reduced maintenance and downtime
- Extended seal and asset service life
- Reduced lifecycle operating costs
- Shorter product development times
- Reduced warranty cost

An effective mix of sealing materials and designs

The SKF SEAL JET system helps enable production of customized seals as prototypes, or small to medium series within 1 to 2 days.

The right materials for your requirements and industry regulations

Poor sealing material choices can lead to increased wear of the seal and counterface surface, and may require frequent seal replacements to prevent unplanned downtime and lost productivity. To help you avoid these issues, SKF develops sealing solutions that draw from one or more of the following material types to meet key industry regulations:

Thermoplastic elastomers

High performance polyurethanes (TPU) from SKF combine excellent abrasion and wear resistance, low compression set and high tear strength, and outstanding pressure resistance.

Elastomers

SKF offers high quality elastomer materials such as HNBR, FKM, EPDM and silicones (MVQ) that deliver excellent resistance to chemicals and other media. EPDM, for example, performs well in aqueous media, while HNBR and FKM are better suited for applications in greasy or fatty media environments.

Thermoplastics

SKF's range of specialty plastic materials includes thermoplastics that can meet higher temperature, chemical and mechanical property requirements. PTFE as an advanced, high performance plastic is engineered to handle extreme conditions and its compounds can withstand aggressive chemicals plus high temperatures and pressures.

CIP/SIP

Cleaning in place or Sterilization in place means that it takes place without dismantling. It is an important process in guaranteeing food safety in food processing plants.

COP/SOP

Cleaning out of place or Sterilization out of place means dismandling and cleaning the individual parts.

FDA

The Food and Drug Administration (FDA) is a federal agency of the United States Department of Health and Human Services and is, amongst others, responsible for control and supervision of food safety. Materials specified as FDA compliant are composed according the positive lists for the respective material types, issued by the FDA.

EU

European food safety regulations consist of general requirements laid out in EC1935/2004 and specific guidelines for material types, e.g. EC10/2011 for thermoplastic materials. Unless indicated otherwise, materials specified as EU-compliant are fully conformal to EC 1935/2004 which includes material composition and migration limits, as well as EC2023/2006 (Good manufacturing practice).

3A

3A Sanitary Standards, Inc. (3A SSI) is a US-based organization that provides sanitary standards and practices for dairy and food equipment. Materials specified as 3A compliant are composed according the respective FDA positive lists and have been tested either by suppliers or at SKF internally to meet the required properties.

Name appendix –FG

All materials without the appendix –FG in their name that are intended to be used in food and beverage applications need to be ordered as such, as this triggers additional processing routines to provide compliance.

See how SKF can help

We have solved some of the most common sealing challenges for some of the toughest food and beverage applications. In fact, SKF has worked with equipment manufacturers and operators to solve these challenges repeatedly. In the process we've evolved a highly effective mix of sealing materials and designs that also comply with key safety regulations, including those highlighted on the previous page.

Covered throughout the pages of this catalogue, our successes are now represented by a standardized range of SKF sealing solutions for harsh food and beverage applications. These include:

- Dosing pistons
- Homogenizers
- Rotary unions
- Standardized hygienic shaft seals
- Power transmission seals

Design considerations

Surface finish

To achieve maximum seal life, proper surface finish for both static and dynamic hardware is essential. Static mating hardware should have a maximum finish of ≤0.8 R_a. For dynamic mating hardware surfaces, R_z, R_{max} and R_{mr} are critical characteristics that must be considered as well.

- R_a: Average roughness
- R_z: Mean roughness depth
- R_{max}: Maximum roughness depth
- R_{mr}: Material ratio – the R_{mr} is a finish characteristic which is often not considered, but is extremely important for the wear life of the seal. This is the ratio of the width of the peaks at a given height to the width of the valley. If a finish is very open, an R_{mr} that is less than 50% of the finish profile can be very abrasive.

Roughness for dynamic surfaces

	Thermoplastic elastomers	Thermoplastics
R_a	0.05 to 0.3 µm	0.05 to 0.2 µm
R_z	0.4 to 2.5 µm	0.4 to 1.3 µm
R_{max}	0.4 to 2.5 µm	0.4 to 2.5 µm
R_{mr}	50-95%*	50-95%*

* (cutting depth 0.5 R_z based c_{ref} = 0%)

Hardness of dynamic mating surfaces

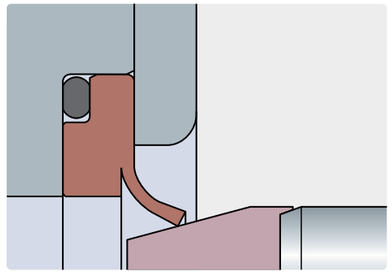
For dosing pistons and rotary unions, the typical speeds and lower pressures allow the use of non-hardened stainless steel mating surfaces.

Due to the high pressures and speeds of homogenizers, dynamic hardware surfaces must be heat-treated and/or plated to reach a minimum hardness of 58 HRC.

Installation chamfers

To prevent damage to sealing lips during installation, the recommended installation chamfers on the housings and dynamic hardware surfaces should always be followed.

The chamfers specified for dynamic surfaces should be considered the minimum requirement and increased in length if possible.



On R2U lip seals, typically the shaft will be inserted through multiple seals. Some of these seals will be oriented so that the shaft enters the sealing lip going with the form of the sealing lip, while for other seals the shaft will be going against the sealing lip form.

The installation chamfers specified for the R2U rotary lip seal are large enough to secure the shaft can be inserted through the seal going against the form of the sealing lip. For applications where it is not possible to incorporate this large of a chamfer, an installation tool should be used. SKF can design and supply this type of tool as required – see illustration above.

A range of food-grade sealing materials

Material	Polymer grade	Colour	Main properties: Temperature, min	Temperature, max	Hardness[1]		F&B standards compliance: FDA	3A	EU	ADI free	Resistance to cleaning processes: Nitric acid (acidic CIP)[2] Tested at 80 °C (175 °F), 2%	Caustic soda (alkaline CIP)[2] Tested at 80 °C (175 °F), 3%	Phosphoric acid (acidic CIP)[2] Tested at 80 °C (175 °F), 1%	Sodium hypochlorite Tested at 70 °C (158 °F), 3%	Distilled water Tested at 100 °C (210 °F)	Steam SOP Tested at 121 °C (250 °F)	Steam, SIP Tested at 121 °C (250 °F)	Resistance to food: Dairy	Olive oil	Cocoa butter	Fruit and sugar mass	Sausage, meat	Alcoholic beverages < 15%	Alcoholic beverages > 15%
			°C (°F)	°C (°F)	Shore A	Shore D																		
Thermoplastic elastomers																								
H-ECOPUR	TPU	red	–20 (–5)	+110 (+230)	95 ± 2	48 ± 3	YES [3]	YES	YES	YES	+	+	+	+	+	+/0	0/– [5]	+	+	+	+	+	+	+
H-ECOPUR 95A-NC	TPU	opaque	–20 (–5)	+110 (+230)	95 ± 2	48 ± 3	YES	YES	YES	YES	+	+	+	+	+	+/0	0/– [5]	+	+	+	+	+	+	+
H-ECOPUR 95A-blue	TPU	blue	–20 (–5)	+110 (+230)	95 ± 2	48 ± 3	YES	YES	YES	YES	+	+	+	+	+	+/0	0/– [5]	+	+	+	+	+	+	+
ECOPUR 95A-bl-FG	TPU	blue	–50 (–60)	+100 (+210)	95 ± 2	47 ± 3	YES	YES	YES	YES	–	+	+	+	0	–	–	+	+	+	+	+	+	0
H-ECOPUR 85A	TPU	red	–20 (–5)	+100 (+210)	85 ± 2	35 ± 3	NO	n.d.a.	NO	YES	n.d.a.	n.d.a.	n.d.a.	n.d.a.	+	0	–	+	+	+.	+	+	+	0
Elastomers																								
SKF Ecorubber-H 85A-b-FG	HNBR	black	–25 (–15)	+150 (+300)	85 ± 5	n.a.	YES	YES	YES	YES	0	+	+	0	0	0	0	+	+	+	+	+	+	+
SKF Ecorubber-2 85A-w-FG	FKM	white	–20 (–5)	+200 (+390)	85 ± 5	n.a.	YES	YES	YES	YES	+	0	+	+	0	–	–	+	+	+	+	+	+	+
SKF Ecorubber-3 85A-w-FG	EPDM	white	–50 (–60)	+150 (+300)	85 ± 5	n.a.	YES	YES	YES	YES	+	+	+	+	+	+	+	0	–	–	+	+	+	+
SKF Ecorubber-3 85A-b-FG	EPDM	black	–50 (–60)	+150 (+300)	85 ± 5	n.a.	YES	YES	YES	YES	+	+	+	+	+	+	+	+	–	–	+	+	+	+
SKF Ecosil	MVQ / VMQ	reddish brown	–60 (–75)	+200 (+390)	85 ± 5	n.a.	YES	YES	YES	YES	+	+	+	+	+	–	–	+	+	+	+	+	+	0
Thermoplastics																								
SKF Ecotal	POM-C (Acetal)	black	–50 (–60)	+100 (+210)	n.a.	82	YES	n.d.a.	YES	YES	–	0	0	0	+	–	–	+	+	+	+	+	+	+
728	POM-C (Acetal)	white	–50 (–60)	+100 (+210)	n.a.	85	YES	YES	YES [4]	YES	–	0	0	0	+	–	–	+	+	+	+	+	+	+
729	PET	white	–20 (–5)	+115 (+240)	n.a.	87	YES	YES	YES [4]	YES	0	–	+	+	+	–	–	+	+	+	+	+	+	+
SKF Ecopaek	PEEK	cream	–100 (–150)	+260 (+500)	n.a.	87	YES	YES	YES	YES	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SKF Ecoflon 1	Virgin, unfilled PTFE	white	–200 (–330)	+260 (+500)	n.a.	57	YES	n.d.a.	YES	YES	+	+	+	+	+	+	+	+	+	+	+	+	+	+
700	Virgin, unfilled PTFE	white	–200 (–330)	+260 (+500)	n.a.	56	YES	n.d.a.	YES [4]	YES	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SKF Ecoflon 5	Modified PTFE	white	–200 (–330)	+260 (+500)	n.a.	59	YES	YES	YES [4]	YES	+	+	+	+	+	+	+	+	+	+	+	+	+	+
777	Modified PTFE	white	–200 (–330)	+260 (+500)	n.a.	60	YES	YES	YES [4]	YES	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SKF Ecoflon 14	PTFE (+ 10% Ekonol)	tan	–200 (–330)	+260 (+500)	n.a.	57	NO	n.d.a.	YES [4]	YES	n.d.a.	n.d.a.	n.d.a.	n.d.a.	+	0	0	+	+	+	+	+	+	+
754	PTFE (+ 10% Ekonol)	tan	–200 (–330)	+260 (+500)	n.a.	63	NO	NO	NO	YES	n.d.a.	n.d.a.	n.d.a.	n.d.a.	+	0	0	+	+	+	+	+	+	+
SKF Ecoflon 16	PTFE (+ 25% PEEK)	cream	–200 (–330)	+260 (+500)	n.a.	63	YES	NO	YES [4]	YES	+	+	+	+	+	+	+	+	+	+	+	+	+	+
721	PTFE (+ minerals)	white	–200 (–330)	+260 (+500)	n.a.	61	YES	n.d.a.	NO	YES	n.d.a.	n.d.a.	n.d.a.	n.d.a.	+	+	+	+	+	+	+	+	+	+
SKF Ecowear 1000	UHMWPE	white	–200 (–330)	+90 (+194)	n.a.	61	YES	YES	YES	YES	+	+	+	–	0	–	–	+	+	+	+	+	+	+
776	UHMWPE	white	–200 (–330)	+90 (+194)	n.a.	64	YES	YES	YES [4]	YES	+	+	+	–	0	–	–	+	+	+	+	+	+	+
795	UHMWPE	white	–200 (–330)	+100 (+210)	n.a.	64	YES	YES	YES [4]	YES	+	+	+	–	+	0	–	+	+	+	+	+	+	+
PTFE 5858	PTFE (+ fillers)	cream	–200 (–330)	+260 (+500)	n.a.	57	YES	n.d.a.	YES [4]	YES	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PTFE 9598	PTFE (+ fillers)	blue	–200 (–330)	+260 (+500)	n.a.	61	YES	n.d.a.	YES [4]	YES	+	+	+	+	+	+	+	+	+	+	+	+	+	+

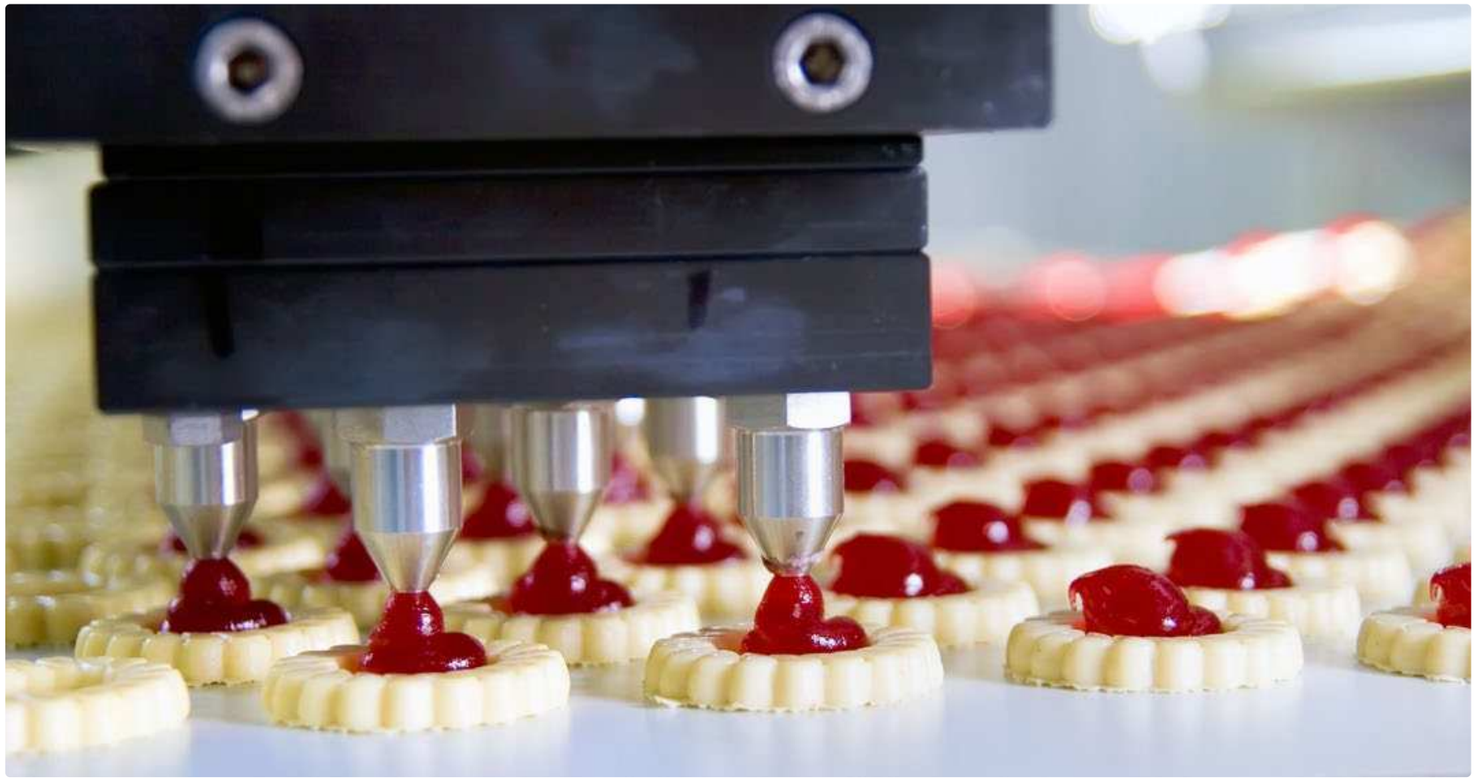
+	Resistant	YES	Compliant	n.d.a.	No data available
0	Limited resistance	NO	Not compliant	n.a.	Not applicable
–	Not recommended				

Material	Characteristics and applications
Thermoplastic elastomers	These wear-resistant materials enable self-activating solutions in applications with high pressures and temperatures up to 110°C (230°F).
H-ECOPUR	A polyurethane grade with outstanding chemical resistance.
H-ECOPUR 95A-NC	Version of H-ECOPUR in its natural colouring.
H-ECOPUR 95A-blue	A blue-coloured version of H-ECOPUR; recommended for F&B applications for its detectability.
ECOPUR 95A-bl-FG	A special blue-coloured polyurethane grade with excellent low-temperature properties.
H-ECOPUR 85A	Only suitable for special applications that require low hardness.
Elastomers	Elastomer materials are recommended for higher temperature applications with chemical resistance requirements that polyurethanes cannot meet.
SKF Ecorubber-H 85A-b-FG	An HNBR grade with good mechanical properties and wear resistance.
SKF Ecorubber-2 85A-w-FG	An FKM grade with outstanding temperature and chemical resistance.
SKF Ecorubber-3 85A-w-FG	Recommended for steam applications; not compatible with animal or vegetable oils/fats.
SKF Ecorubber-3 85A-b-FG	Recommended for steam applications; not compatible with animal or vegetable oils/fats.
SKF Ecosil	Offers excellent low-temperature behaviour; used primarily in static applications.

[1] Hardness value for thermoplastic polyurethanes (TPU) is recorded after a period of 3 seconds.
[2] Suitable for a typical CIP cleaning cycle of up to 50 minutes, complete rinse with water as subsequent treatment step is required.
[3] Compliance to FDA positive list and specific migration testing was performed and confirmed by an independent, accredited institute.
[4] The material composition is according to the positive list of EC10/2011.
[5] In case of self-energizing desings, SIP can lead to loss of preload and thus sealing functionality.

Material	Characteristics and applications
Thermoplastics	Thermoplastics operate with less friction and wear than elastomers and thermoplastic elastomers; thermoplastic seals require metal or elastomer springs/energizers.
SKF Ecotal	A high-strength plastic material used primarily for bushings and plastic parts that require improved physical properties.
728	Essentially SKF Ecotal in its natural colouring.
729	A technical thermoplastic material comparable to SKF Ecotal and 728, but with better dimensional stability and lower sliding wear.
SKF Ecopaek	A high performance material with significantly improved chemical resistance, higher operating temperature and improved creep and relaxation behaviour compared to SKF Ecotal, 728 and 729.
SKF Ecoflon 1. 700	Optimized for media compatibility; typically only used in static or light-duty dynamic sealing applications due to its low wear resistance.
SKF Ecoflon 5. 777	Similar to SKF Ecoflon 1 and 700. but with improved creep behaviour; 3A-approved.
SKF Ecoflon 14. 754	Good wear resistance and non-abrasive against non-hardened surfaces; steam-cleanable but not suitable for sealing steam continuously.
SKF Ecoflon 16	Similar to SKF Ecoflon 14 and 754. but offers better performance in steam applications; FDA-compliant.
721	An FDA-compliant, filled PTFE that offers improved wear resistance in high-temperature applications.
SKF Ecowear 1000. 776	Exceptional wear/abrasion resistance for sealing non-lubricating media. Extrusion resistance makes both materials suitable for homogenizers and other high-pressure applications.
795	Similar ot SKF Ecowear 1000 and 776; improved oxidation resistance at high temperatures, tolerates steam cleaning for short periods.
PTFE 5858	FDA, EU and GMP compliant Polymer filled PTFE that offers improved wear resistance and good dry running properties.
PTFE 9598	FDA, EU, GMP compliant PTFE with anorganic filler that offers improved wear resistance and good dry running properties.

Dosing pistons



Precision sealing for dosing pistons enhances hygiene and efficiency.

Threats to uptime

The vast majority of liquid and dense food products are packed with dosing cylinders. Dosing pistons draw the product from the hopper into the dosing cylinder on the recharge stroke. The pistons then dispense the product into the container. Dosing volume is infinitely variable over the range of the cylinder size.

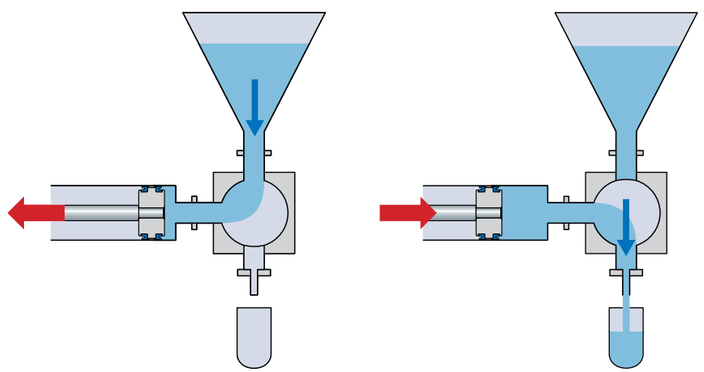
To function effectively and maintain a constant filling volume, dosing pistons need seals that are optimized to handle contact with abrasive products under substantial pressure. Given harsh CIP processes, seals for dosing pistons must also be easy to clean and withstand harsh washdowns.

SKF sealing solutions

Seals from SKF provide the proven performance that dosing piston applications require. Despite exposure to abrasive food products and high pumping pressures, SKF seals deliver precise, reliable sealing to maintain constant filling volume.

Sealing solutions range from straightforward retrofits to a complete sealing piston that installs on the driving rod.

Resulting benefits include:
- Higher productivity
- Reduced maintenance
- Less unplanned downtime
- Faster, easier washdowns due to lack of “dead spots” on seals

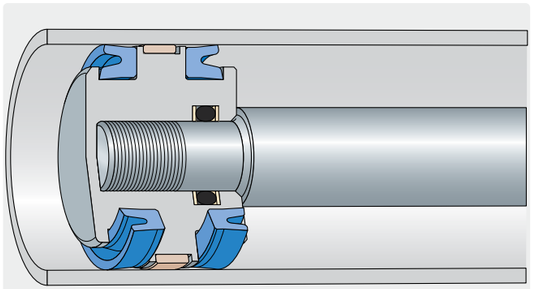


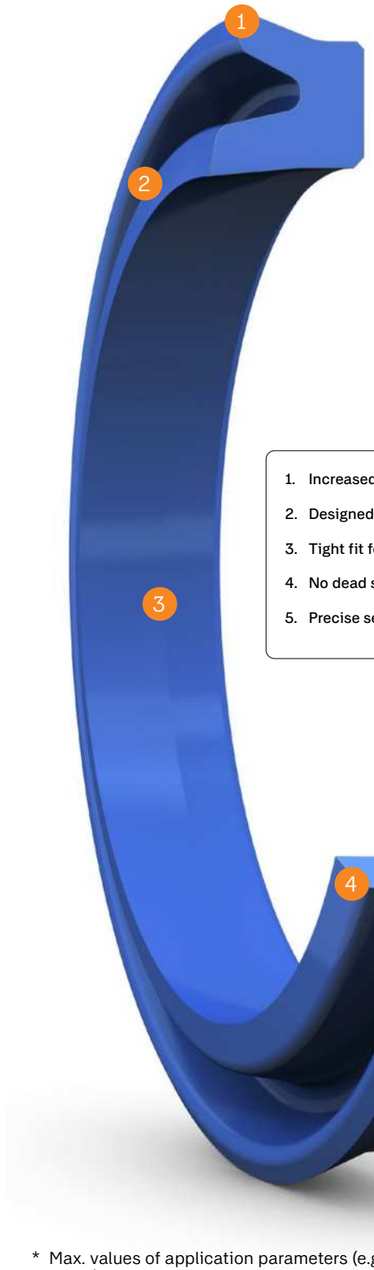
Discover more on our website.
Click or scan here:

Standardized sealing solutions for dosing pistons

D1P

As our standard recommended offering for dosing pistons, D1P is a highly cleanable seal that offers precision sealing performance and a stable fit in the piston housing. Due to the elastomeric material characteristic, it is a self-energizing solution and easy to snap into closed piston housings. Featuring a thermoplastic elastomer sealing lip and an optimized design, D1P seals are capable of speeds up to 0.5 m/s and can handle pressures up to 10 bar*. The seals can be installed back-to-back, or in standalone set-ups with low vacuum values during the recharge stroke.





1. Increased wiping ability
2. Designed for easy cleaning
3. Tight fit for greater stability
4. No dead spots
5. Precise sealing effect

* Max. values of application parameters (e.g. pressure, speed, temp. or e-gap) should not be applied continuously nor simultaneously.

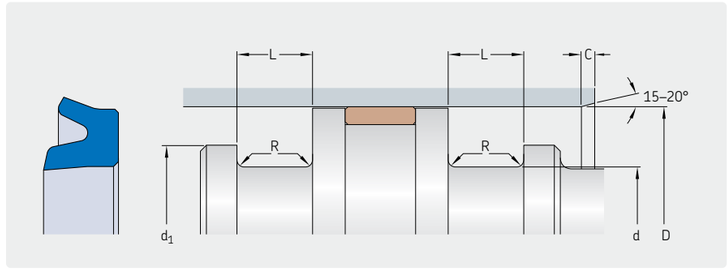
General dimensions

D H9	d h10	L +0.2	d_1 ±0.2	R max.	C min.
mm					
15 – 25	D-8	6	D-5	0.4	3.5
25.1 – 50	D-10	7	D-6	0.4	4
50.1 – 75	D-12	8	D-7	0.4	4.5
75.1 – 150	D-15	10	D-9	0.4	5

Typical materials for the D1P

Material	Temperature range °C (°F)	
H-ECOPUR	-20 (-5)	+110 (+230)
H-ECOPUR 95A-NC	-20 (-5)	+110 (+230)
H-ECOPUR 95A-blue	-20 (-5)	+110 (+230)
ECOPUR 95A-bl-FG	-50 (-60)	+100 (+210)

NOTE: Available in elastomeric materials on request.



Ordering information key

D1P
Dosing piston design 1 (U-cup)

50 × 40 × 7
Housing dimensions (D × d × L in mm)

Sealing material
See the material matrix on **page 8–9**

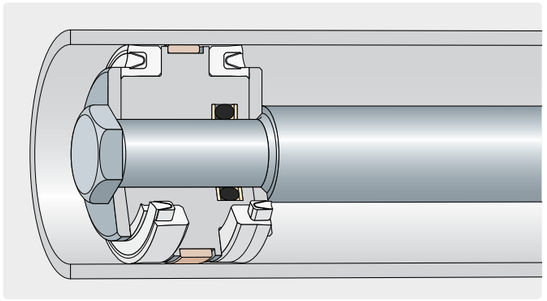
D H9	d h10	L +0.2	d_1 ±0.2	R max.	C min.	Ordering information
mm						–
15	7	6	10	0.4	3.5	D1P 15×7×6 Sealing material
16	8	6	11	0.4	3.5	D1P 16×8×6 Sealing material
18	10	6	13	0.4	3.5	D1P 18×10×6 Sealing material
20	12	6	15	0.4	3.5	D1P 20×12×6 Sealing material
21	13	6	16	0.4	3.5	D1P 21×13×6 Sealing material
22	14	6	17	0.4	3.5	D1P 22×14×6 Sealing material
24	16	6	19	0.4	3.5	D1P 24×16×6 Sealing material
25	17	6	20	0.4	3.5	D1P 25×15×6 Sealing material
28	18	7	22	0.4	4	D1P 28×18×7 Sealing material
30	20	7	24	0.4	4	D1P 30×20×7 Sealing material
32	22	7	26	0.4	4	D1P 32×22×7 Sealing material
35	25	7	29	0.4	4	D1P 35×25×7 Sealing material
36	26	7	30	0.4	4	D1P 36×26×7 Sealing material
38	28	7	32	0.4	4	D1P 38×28×7 Sealing material
39	29	7	33	0.4	4	D1P 39×29×7 Sealing material
40	30	7	34	0.4	4	D1P 40×30×7 Sealing material
42	32	7	36	0.4	4	D1P 42×32×7 Sealing material
45	35	7	39	0.4	4	D1P 45×35×7 Sealing material
48	38	7	42	0.4	4	D1P 48×38×7 Sealing material
50	40	7	43	0.4	4	D1P 50×40×7 Sealing material
52	40	8	45	0.4	4.5	D1P 52×40×8 Sealing material
53	41	8	46	0.4	4.5	D1P 53×41×8 Sealing material
55	43	8	48	0.4	4.5	D1P 55×43×8 Sealing material
57	45	8	50	0.4	4.5	D1P 57×45×8 Sealing material
58	46	8	51	0.4	4.5	D1P 58×46×8 Sealing material
60	48	8	53	0.4	4.5	D1P 60×48×8 Sealing material
62	50	8	55	0.4	4.5	D1P 62×50×8 Sealing material
63	51	8	56	0.4	4.5	D1P 63×51×8 Sealing material
65	53	8	58	0.4	4.5	D1P 65×53×8 Sealing material
68	56	8	61	0.4	4.5	D1P 68×56×8 Sealing material
70	58	8	63	0.4	4.5	D1P 70×58×8 Sealing material
75	63	8	68	0.4	4.5	D1P 75×63×10 Sealing material
79	64	10	70	0.4	5	D1P 79×64×10 Sealing material
80	65	10	71	0.4	5	D1P 80×65×10 Sealing material
82.5	67.5	10	73.5	0.4	5	D1P 82.5×67.5×10 Sealing material
85	70	10	76	0.4	5	D1P 85×70×10 Sealing material
90	75	10	81	0.4	5	D1P 90×75×10 Sealing material
95	80	10	86	0.4	5	D1P 95×80×10 Sealing material
100	85	10	91	0.4	5	D1P 100×85×10 Sealing material
105	90	10	96	0.4	5	D1P 105×90×10 Sealing material
108	93	10	99	0.4	5	D1P 108×93×10 Sealing material
110	95	10	101	0.4	5	D1P 110×95×10 Sealing material
115	100	10	106	0.4	5	D1P 115×100×10 Sealing material
120	105	10	111	0.4	5	D1P 120×110×10 Sealing material
125	110	10	116	0.4	5	D1P 125×110×10 Sealing material
127	112	10	118	0.4	5	D1P 127×112×10 Sealing material
130	115	10	121	0.4	5	D1P 130×115×10 Sealing material
132	117	10	123	0.4	5	D1P 132×117×10 Sealing material
135	120	10	126	0.4	5	D1P 135×120×10 Sealing material
140	125	10	131	0.4	5	D1P 140×125×10 Sealing material
145	130	10	136	0.4	5	D1P 145×130×10 Sealing material
150	135	10	141	0.4	5	D1P 150×135×10 Sealing material

NOTE: Due to our flexible manufacturing process we are able to produce any other dimension on request

Standardized sealing solutions for dosing pistons

D2P

This meander spring-energized thermoplastic lip seal is filled with silicone to keep contaminants out of the spring cavity. D2P seals are suitable for pressures up to 10 bar and speeds up to 1.5 m/s*, plus a range of abrasive products. The seals are very easy to clean and are installed in two-piece housings so that the static lip can be axially compressed to eliminate dead spots. When PTFE materials are used, D2P seals will resist high temperatures.



1. Excluding dynamic lip keeps abrasive materials away from sealing contact
2. Silicone filling prevents entrapment of media
3. Lip is compressed in housing to eliminate dead spots
4. Tight fit on piston
5. Meander spring energizes seal jacket
6. Additional clearance to bore for added flexibility

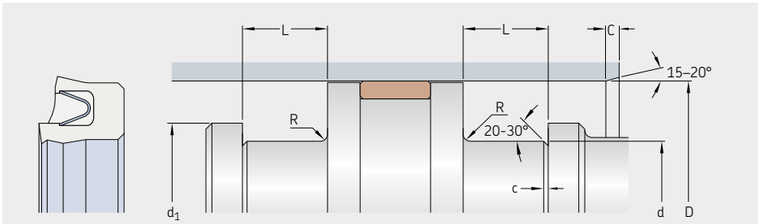
General dimensions

D H9	d h10	L +0.13	d_1 ±0.2	R max.	c ±0.1	C min.
mm						
15 – 25	D-8	6	D-5	0.4	0.4	1
25.1 – 50	D-10	7	D-6.7	0.5	0.5	1.3
50.1 – 75	D-12	8	D-6.7	0.5	0.5	1.3
75.1 – 150	D-15	10	D-10.5	0.9	0.75	2

Typical materials for the D2P

Material	Temperature range °C (°F)	
SKF Ecoflon 1. 700	-200 (-330)	+260 (+500)
SKF Ecoflon 5. 777	-200 (-330)	+260 (+500)
SKF Ecoflon 14. 754	-200 (-330)	+260 (+500)
SKF Ecoflon 16	-200 (-330)	+260 (+500)
721	-200 (-330)	+260 (+500)
SKF Ecowear 1000. 776	-200 (-330)	+90 (+194)
795	-200 (-330)	+100 (+210)

* Max. values of application parameters (e.g. pressure, speed, temp. or e-gap) should not be applied continuously nor simultaneously.



Two-piece housings

Ordering information key

D2P
Dosing piston design 2
(silicone-filled, spring-energized seal)

50 × 40 × 7
Housing dimensions (D × d × L in mm)

Sealing material
See the material matrix on **page 8–9**

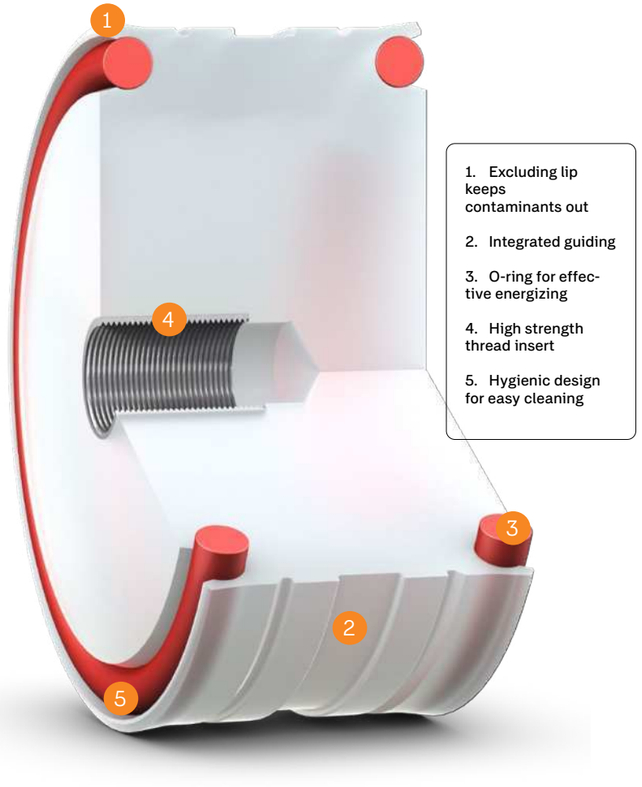
D H9	d h10	L +0.13	d_1 ±0.2	R max.	c ±0.1	C min.	Ordering information
mm							–
15	7	6	10	0.4	0.4	1	D2P 15×7×6 Sealing material
16	8	6	11	0.4	0.4	1	D2P 16×8×6 Sealing material
18	10	6	13	0.4	0.4	1	D2P 18×10×6 Sealing material
20	12	6	15	0.4	0.4	1	D2P 20×12×6 Sealing material
21	13	6	16	0.4	0.4	1	D2P 21×13×6 Sealing material
22	14	6	17	0.4	0.4	1	D2P 22×14×6 Sealing material
24	16	6	19	0.4	0.4	1	D2P 24×16×6 Sealing material
25	17	6	20	0.4	0.4	1	D2P 25×17×6 Sealing material
28	18	7	21.3	0.5	0.5	1.3	D2P 28×18×7 Sealing material
30	20	7	23.3	0.5	0.5	1.3	D2P 30×20×7 Sealing material
32	22	7	25.3	0.5	0.5	1.3	D2P 32×22×7 Sealing material
35	25	7	28.3	0.5	0.5	1.3	D2P 35×25×7 Sealing material
36	26	7	29.3	0.5	0.5	1.3	D2P 36×26×7 Sealing material
38	28	7	31.3	0.5	0.5	1.3	D2P 38×28×7 Sealing material
39	29	7	32.3	0.5	0.5	1.3	D2P 39×29×7 Sealing material
40	30	7	33.3	0.5	0.5	1.3	D2P 40×30×7 Sealing material
42	32	7	35.3	0.5	0.5	1.3	D2P 42×32×7 Sealing material
45	35	7	38.3	0.5	0.5	1.3	D2P 45×35×7 Sealing material
48	38	7	41.3	0.5	0.5	1.3	D2P 48×38×7 Sealing material
50	40	7	43.3	0.5	0.5	1.3	D2P 50×40×7 Sealing material
52	40	8	45.3	0.5	0.5	1.3	D2P 52×40×8 Sealing material
53	41	8	46.3	0.5	0.5	1.3	D2P 53×41×8 Sealing material
55	43	8	48.3	0.5	0.5	1.3	D2P 55×43×8 Sealing material
57	45	8	50.3	0.5	0.5	1.3	D2P 57×45×8 Sealing material
58	46	8	51.3	0.5	0.5	1.3	D2P 58×46×8 Sealing material
60	48	8	53.3	0.5	0.5	1.3	D2P 60×48×8 Sealing material
62	50	8	55.3	0.5	0.5	1.3	D2P 62×50×8 Sealing material
63	51	8	56.3	0.5	0.5	1.3	D2P 63×51×8 Sealing material
65	53	8	58.3	0.5	0.5	1.3	D2P 65×53×8 Sealing material
68	56	8	61.3	0.5	0.5	1.3	D2P 68×56×8 Sealing material
70	58	8	63.3	0.5	0.5	1.3	D2P 70×58×8 Sealing material
75	63	8	68.3	0.5	0.5	1.3	D2P 75×60×10 Sealing material
79	64	10	68.5	0.9	0.75	2	D2P 79×64×10 Sealing material
80	65	10	69.5	0.9	0.75	2	D2P 80×65×10 Sealing material
82.5	67.5	10	72	0.9	0.75	2	D2P 82.5×67.5×10 Sealing material
85	70	10	74.5	0.9	0.75	2	D2P 85×70×10 Sealing material
90	75	10	79.5	0.9	0.75	2	D2P 90×75×10 Sealing material
95	80	10	84.5	0.9	0.75	2	D2P 95×80×10 Sealing material
100	85	10	89.5	0.9	0.75	2	D2P 100×85×10 Sealing material
105	90	10	94.5	0.9	0.75	2	D2P 105×90×10 Sealing material
108	93	10	97.5	0.9	0.75	2	D2P 108×93×10 Sealing material
110	95	10	99.5	0.9	0.75	2	D2P 110×95×10 Sealing material
115	100	10	104.5	0.9	0.75	2	D2P 115×100×10 Sealing material
120	105	10	109.5	0.9	0.75	2	D2P 120×110×10 Sealing material
125	110	10	114.5	0.9	0.75	2	D2P 125×110×10 Sealing material
127	112	10	116.5	0.9	0.75	2	D2P 127×112×10 Sealing material
130	115	10	119.5	0.9	0.75	2	D2P 130×115×10 Sealing material
132	117	10	121.5	0.9	0.75	2	D2P 132×117×10 Sealing material
135	120	10	124.5	0.9	0.75	2	D2P 135×120×10 Sealing material
140	125	10	129.5	0.9	0.75	2	D2P 140×125×10 Sealing material
145	130	10	134.5	0.9	0.75	2	D2P 145×130×10 Sealing material
150	135	10	139.5	0.9	0.75	2	D2P 150×135×10 Sealing material

NOTE: Due to our flexible manufacturing process we are able to produce any other dimension on request

Standardized sealing solutions for dosing pistons

D3P

Installed directly on the driving rod, D3P is a complete thermoplastic piston for filling cylinders. Made of SKF Ecowear and a variety of SKF Ecoflon compounds, D3P simultaneously provides a sealing and guiding effect for reduced maintenance. O-rings act as elastic energizing elements to keep contaminants from getting trapped, and can be manufactured in different elastomeric materials according to the application requirements. This seals are capable of speeds up to 1 m/s and can handle pressures up to 10 bar[1)].



1. Excluding lip keeps contaminants out
2. Integrated guiding
3. O-ring for effective energizing
4. High strength thread insert
5. Hygienic design for easy cleaning

General dimensions

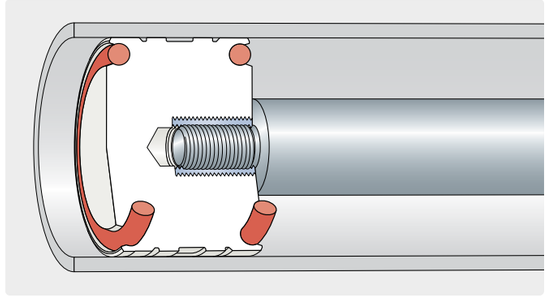
D	M	H	t_1	C min.
mm	–	mm		
12 – 18	M4*	25	8	3.5
18.1 – 22	M6	25	14	3.5
22.1 – 25	M8	25	15	3.5
25.1 – 30	M8	35	15	4
30.1 – 40	M10	35	18	4
40.1 – 50	M12	35	22	4
50.1 – 57	M12	40	22	4.5
57.1 – 65	M16	40	22	4.5
65.1 – 75	M16	40	22	4.5
75.1 – 150	M24	45	30	5

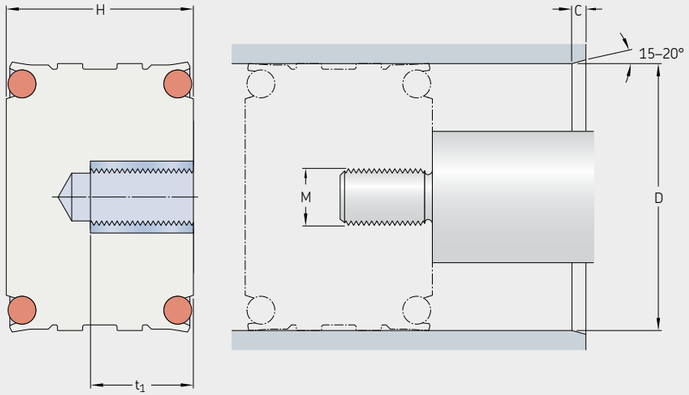
* Without threaded insert

Typical materials for the D3P

Material	Temperature range °C (°F)	
SKF Ecoflon 1. 700	-200 (-330)	+260 (+500)
SKF Ecoflon 5. 777	-200 (-330)	+260 (+500)
SKF Ecoflon 14. 754	-200 (-330)	+260 (+500)
SKF Ecoflon 16	-200 (-330)	+260 (+500)
721	-200 (-330)	+260 (+500)
SKF Ecowear 1000. 776	-200 (-330)	+90 (+194)
795	-200 (-330)	+100 (+210)
SKF Ecosil	-60 (-75)	+200 (+390)

[1)] Max. values of application parameters (e.g. pressure, speed, temp. or e-gap) should not be applied continuously nor simultaneously.





Ordering information key

D3P
Dosing piston design 3 (unitized piston)

50 x M12 x 35
Housing/thread dimensions
50 bore x M12 thread x 35 tall
(D x M x H)

Sealing material
See the material matrix on **page 8–9**; elastomers for energizer

D	M	H	t_1	C min.	Ordering information
mm	–	mm			–
12	M4	25	8	3.5	D3P 12×M4×25 Sealing material / Energizer material
13	M4	25	8	3.5	D3P 13×M4×25 Sealing material / Energizer material
14	M4	25	8	3.5	D3P 14×M4×25 Sealing material / Energizer material
15	M4	25	8	3.5	D3P 15×M4×25 Sealing material / Energizer material
16	M4	25	8	3.5	D3P 16×M4×25 Sealing material / Energizer material
18	M4	25	8	3.5	D3P 18×M4×25 Sealing material / Energizer material
20	M6	25	14	3.5	D3P 20×M6×25 Sealing material / Energizer material
22	M6	25	14	3.5	D3P 22×M6×25 Sealing material / Energizer material
24	M8	25	15	3.5	D3P 24×M8×25 Sealing material / Energizer material
25	M8	25	15	3.5	D3P 25×M8×25 Sealing material / Energizer material
28	M8	35	15	4	D3P 28×M8×35 Sealing material / Energizer material
30	M8	35	15	4	D3P 30×M8×35 Sealing material / Energizer material
32	M10	35	18	4	D3P 32×M10×35 Sealing material / Energizer material
35	M10	35	18	4	D3P 35×M10×35 Sealing material / Energizer material
36	M10	35	18	4	D3P 36×M10×35 Sealing material / Energizer material
38	M10	35	18	4	D3P 38×M10×35 Sealing material / Energizer material
40	M10	35	18	4	D3P 40×M10×35 Sealing material / Energizer material
42	M12	35	22	4	D3P 42×M12×35 Sealing material / Energizer material
45	M12	35	22	4	D3P 45×M12×35 Sealing material / Energizer material
48	M12	35	22	4	D3P 48×M12×35 Sealing material / Energizer material
50	M12	35	22	4.5	D3P 50×M12×35 Sealing material / Energizer material
52	M12	40	22	4.5	D3P 52×M12×40 Sealing material / Energizer material
53	M12	40	22	4.5	D3P 53×M12×40 Sealing material / Energizer material
55	M12	40	22	4.5	D3P 55×M12×40 Sealing material / Energizer material
58	M16	40	22	4.5	D3P 58×M16×40 Sealing material / Energizer material
60	M16	40	22	4.5	D3P 60×M16×40 Sealing material / Energizer material
63	M16	40	22	4.5	D3P 63×M16×40 Sealing material / Energizer material
65	M16	40	22	4.5	D3P 65×M16×40 Sealing material / Energizer material
68	M16	40	22	4.5	D3P 68×M16×40 Sealing material / Energizer material
70	M16	40	22	4.5	D3P 70×M16×40 Sealing material / Energizer material
75	M16	40	22	4.5	D3P 75×M16×40 Sealing material / Energizer material
79	M24	45	30	5	D3P 79×M24×45 Sealing material / Energizer material
80	M24	45	30	5	D3P 80×M24×45 Sealing material / Energizer material
82.5	M24	45	30	5	D3P 82.5×M24×45 Sealing material / Energizer material
85	M24	45	30	5	D3P 85×M24×45 Sealing material / Energizer material
90	M24	45	30	5	D3P 90×M24×45 Sealing material / Energizer material
95	M24	45	30	5	D3P 95×M24×45 Sealing material / Energizer material
100	M24	45	30	5	D3P 100×M24×45 Sealing material / Energizer material
120	M24	45	30	5	D3P 120×M24×45 Sealing material / Energizer material
125	M24	45	30	5	D3P 125×M24×45 Sealing material / Energizer material
150	M24	45	30	5	D3P 150×M24×45 Sealing material / Energizer material

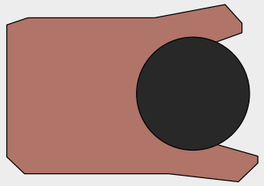
NOTE: Due to our flexible manufacturing process we are able to produce any other dimension on request

Alternative solutions – standard and customized

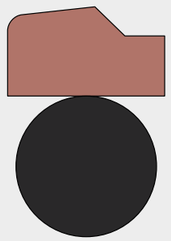
As these examples show, SKF can adapt any dosing piston sealing solution to meet your specific sealing requirements.

Hygienic sealing solutions for contamination-free processing.

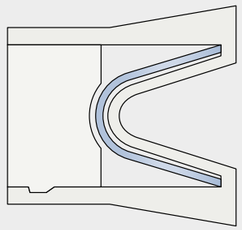
Customized seals provide reliability in high-speed filling lines.



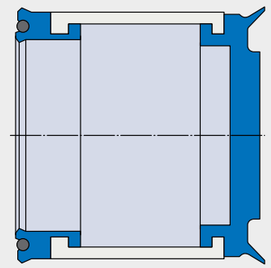
Standard seal profile K03-F
O-ring energized lip seal



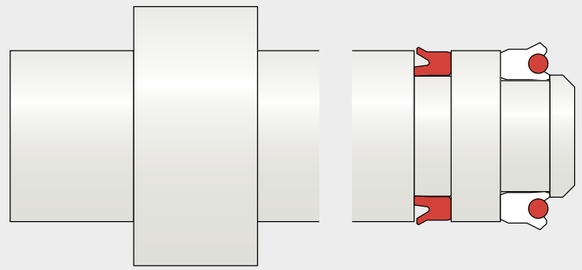
Standard seal profile K08-E
O-ring energized compact seal



Customized seal profile
Encapsulated meander-spring energized SKF Spectraseal



Fully customized solution
Elastomer sealing parts anchored on piston by a split thermoplastic guide ring.



Fully customized solution
Thermoplastic piston with snap-on sealing elements.

Homogenizers

High pressures and speeds

During homogenization, particles or droplets are subdivided into micron sizes to create a stable dispersion or emulsion. Plunger pistons under high pressure push the emulsified product through a combination of valves or nozzles, usually at high speeds.

To provide effective sealing, seals must be able to resist high pressures and deliver excellent sliding properties. To handle abrasive food products and caustic cleaning agents, the seals must be made of materials with high chemical and abrasion resistance. Accordingly, the choice and combination of sealing materials is crucial to meet both performance demands and food safety regulations.

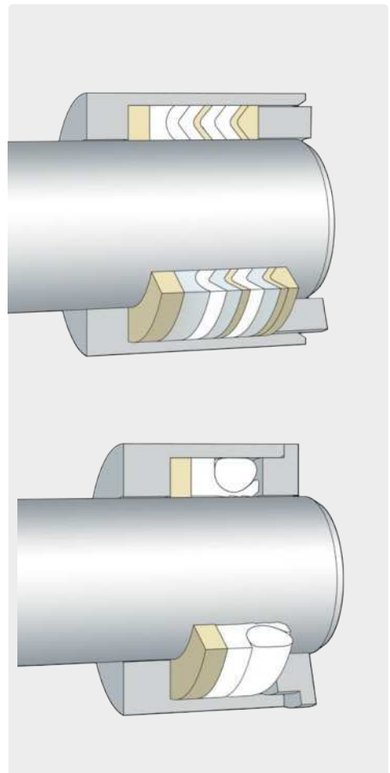
SKF sealing solutions

SKF's H1R and H2R seals provide a performance upgrade compared to the conventional elastomer chevron style seal assemblies frequently used in homogenizers.

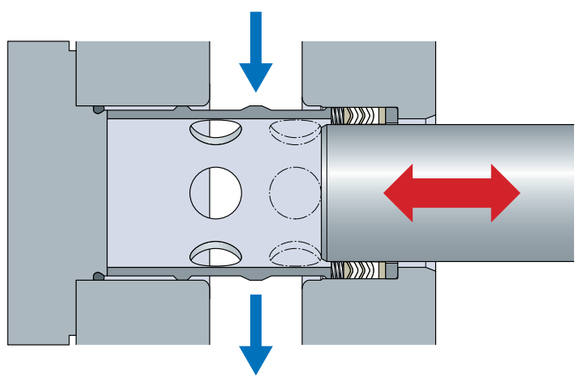
Benefits include:

- Excellent high-pressure sealing
- Reduced frequency and costs of planned sealing system replacements
- Easier to clean than conventional seal designs
- Less unplanned downtime
- Reduced maintenance

Discover more on our website.
Click or scan here:



Precision design for dairy processing.

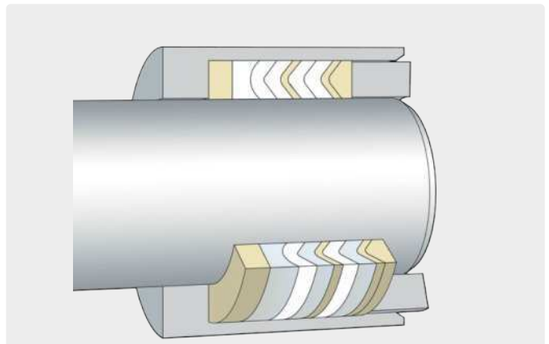


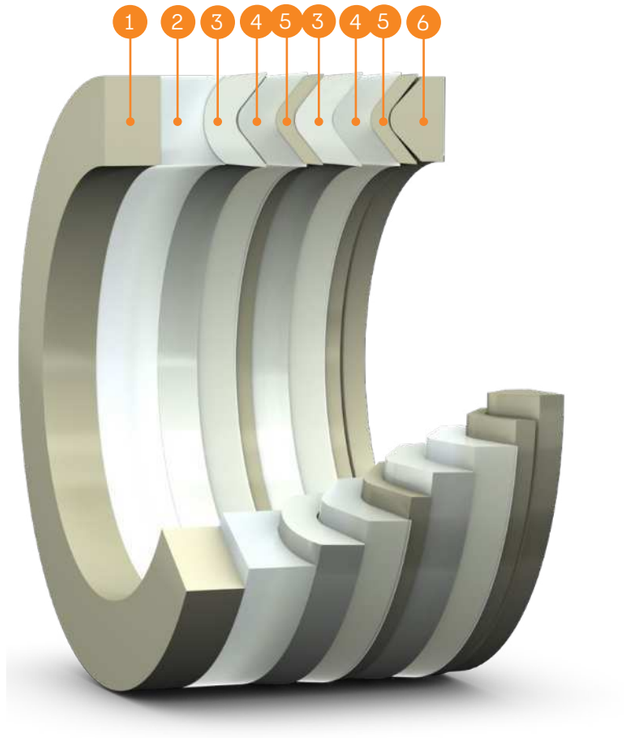
High-pressure durability, minimal wear.

Standardized sealing solutions for homogenizers

H1R

This specially designed packing set for homogenizers prevents contaminants from entering into the packing while maintaining high-pressure loads up to 1 500 bar and speeds up to 0.3 m/s (higher speeds at lower pressures possible)*. Offering a performance upgrade over conventional elastomer chevron style seal assemblies, H1R features a combination of materials to withstand abrasive, potentially non-lubricating products. H1R seals are installed in multiple-piece housings and are typically compressed with a spring.





1. SKF Ecopaek back-up prevents extrusion
2. Profile ring resists cracking at high loads
3. Mineral-filled PTFE vees add redundant seal and reduce heat
4. High-temperature UHMWPE vees resist abrasion
5. SKF Ecopaek vee scrapes fluid and provides flexibility for installs
6. SKF Ecopaek adapter fits most springs

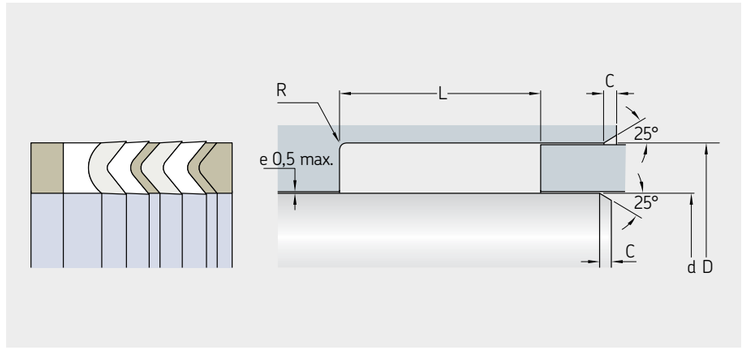
* Max. values of application parameters (e.g. pressure, speed, temp. or e-gap) should not be applied continuously nor simultaneously.

General dimensions

d h10	D H9	L ref.	R max.	C min.
mm				
15 - 50	d+12	28	0.4	1.5
50.1 - 125	d+21	42	0.4	2.5
125.1 - 200	d+25	47	0.4	3

Typical materials for the H1R

Material	Temperature range °C (°F)	
721	-200 (-330)	+260 (+500)
795	-200 (-330)	+100 (+210)
SKF Ecopaek	-100 (-150)	+260 (+500)



Ordering information key

H1R
Homogenizer packing set

50 x 62 x 28
Housing dimensions
(d x D x L in mm)

Sealing material
Seal assembly components produced from SKF Ecopaek, compounds 721 and 795; other materials available on request to meet specific application requirements

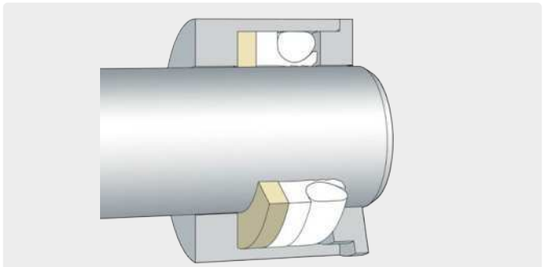
d h10	D H9	L ref.	R max.	C min.	Ordering information
mm					–
15	27	28	0.4	1.5	H1R 15×27×28 Sealing materials
16	28	28	0.4	1.5	H1R 16×28×28 Sealing materials
18	30	28	0.4	1.5	H1R 18×30×28 Sealing materials
20	32	28	0.4	1.5	H1R 20×32×28 Sealing materials
21	33	28	0.4	1.5	H1R 21×33×28 Sealing materials
22	34	28	0.4	1.5	H1R 22×34×28 Sealing materials
24	36	28	0.4	1.5	H1R 24×36×28 Sealing materials
25	37	28	0.4	1.5	H1R 25×37×28 Sealing materials
28	40	28	0.4	1.5	H1R 28×40×28 Sealing materials
30	42	28	0.4	1.5	H1R 30×42×28 Sealing materials
32	44	28	0.4	1.5	H1R 32×44×28 Sealing materials
35	47	28	0.4	1.5	H1R 35×47×28 Sealing materials
36	48	28	0.4	1.5	H1R 36×48×28 Sealing materials
38	50	28	0.4	1.5	H1R 38×50×28 Sealing materials
39	51	28	0.4	1.5	H1R 39×51×28 Sealing materials
40	52	28	0.4	1.5	H1R 40×52×28 Sealing materials
42	54	28	0.4	1.5	H1R 42×54×28 Sealing materials
45	57	28	0.4	1.5	H1R 45×57×28 Sealing materials
48	60	28	0.4	1.5	H1R 48×60×28 Sealing materials
50	62	28	0.4	1.5	H1R 50×62×28 Sealing materials
52	73	42	0.4	2.5	H1R 52×73×42 Sealing materials
53	74	42	0.4	2.5	H1R 53×74×42 Sealing materials
55	76	42	0.4	2.5	H1R 55×76×42 Sealing materials
57	78	42	0.4	2.5	H1R 57×78×42 Sealing materials
58	79	42	0.4	2.5	H1R 58×79×42 Sealing materials
60	81	42	0.4	2.5	H1R 60×81×42 Sealing materials
62	83	42	0.4	2.5	H1R 62×83×42 Sealing materials
63	84	42	0.4	2.5	H1R 63×84×42 Sealing materials
65	86	42	0.4	2.5	H1R 65×86×42 Sealing materials
68	89	42	0.4	2.5	H1R 68×89×42 Sealing materials
70	91	42	0.4	2.5	H1R 70×91×42 Sealing materials
75	96	42	0.4	2.5	H1R 75×96×42 Sealing materials
79	100	42	0.4	2.5	H1R 79×100×42 Sealing materials
80	101	42	0.4	2.5	H1R 80×101×42 Sealing materials
82.5	103.5	42	0.4	2.5	H1R 82.5×103.5×42 Sealing materials
85	106	42	0.4	2.5	H1R 85×106×42 Sealing materials
90	111	42	0.4	2.5	H1R 90×111×42 Sealing materials
95	116	42	0.4	2.5	H1R 95×116×42 Sealing materials
100	121	42	0.4	2.5	H1R 100×121×42 Sealing materials
105	126	42	0.4	2.5	H1R 105×126×42 Sealing materials
108	129	42	0.4	2.5	H1R 108×129×42 Sealing materials
110	131	42	0.4	2.5	H1R 110×131×42 Sealing materials
115	136	42	0.4	2.5	H1R 115×136×42 Sealing materials
120	141	42	0.4	2.5	H1R 120×141×42 Sealing materials
125	146	42	0.4	2.5	H1R 125×146×42 Sealing materials
127	152	47	0.4	3	H1R 127×152×47 Sealing materials
130	155	47	0.4	3	H1R 130×155×47 Sealing materials
132	157	47	0.4	3	H1R 132×157×47 Sealing materials
135	160	47	0.4	3	H1R 135×160×47 Sealing materials
140	165	47	0.4	3	H1R 140×165×47 Sealing materials
145	170	47	0.4	3	H1R 145×170×47 Sealing materials
150	175	47	0.4	3	H1R 150×175×47 Sealing materials

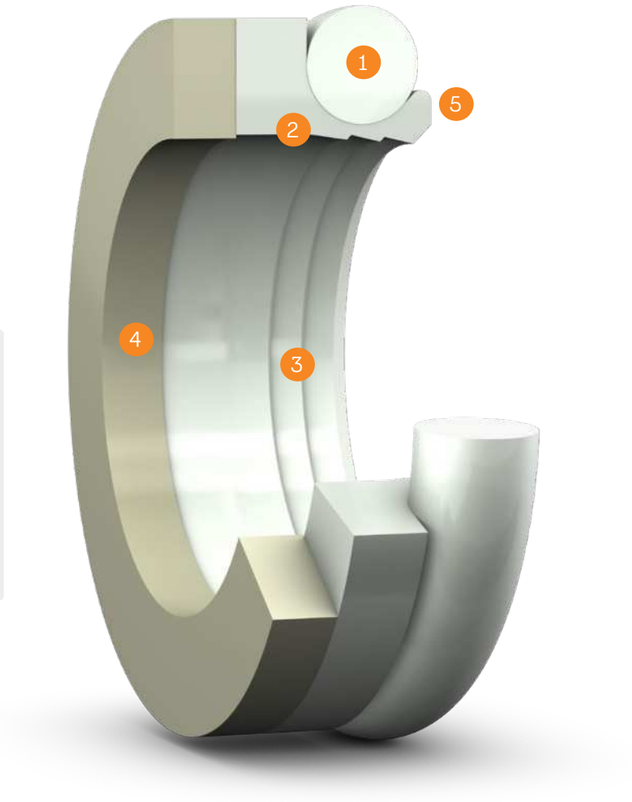
NOTE: Due to our flexible manufacturing process we are able to produce any other dimension on request

Standardized sealing solutions for homogenizers

H2R

Unlike the H1R seal, the H2R has an elastomer energizer to load the ID sealing lip, thus the H2R is not axially compressed allowing the seal to be installed in a less complicated housing design. A pressure adaptive back-up ring provides excellent anti-extrusion support for the sealing element. Optimized design and advanced material selection of the sealing element gives H2R seals very high pressure resistance and outstanding sliding properties in water-based fluids and food products. This seals are capable of pressures up to 2 000 bar and can handle speeds up to 0.3 m/s (higher speeds at lower pressures possible)*.





1. Food-grade o-ring energizer
2. High pressure design
3. Saw tooth pattern handles high and low pressure
4. Extrusion-resistant back-up ring
5. Raised front lip keeps o-ring in place

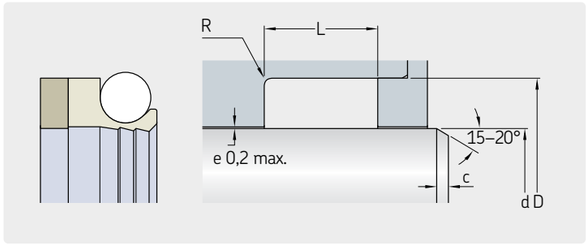
* Max. values of application parameters (e.g. pressure, speed, temp. or e-gap) should not be applied continuously nor simultaneously.

General dimensions

d f8	D H10	L +0.2	R max.	c min.
mm				
10 - 40	d+10	15	0.4	4
40.1 - 80	d+15	20	0.4	5
80.1 - 150	d+20	25	0.4	6
150.1 - 200	d+25	30	0.4	8.5

Typical materials for the H2R

Material	Temperature range °C (°F)	
SKF Ecowear 1000. 776	-200 (-330)	+90 (+194)
SKF Ecopaek	-100 (-150)	+260 (+500)
SKF Ecorubber-H 85A-b-FG	-25 (-15)	+150 (+300)
SKF Ecorubber-2 85A-w-FG	-20 (-5)	+200 (+390)
SKF Ecorubber-3 85A-w-FG	-50 (-60)	+150 (+300)
SKF Ecorubber-3 85A-b-FG	-50 (-60)	+150 (+300)
SKF Ecosil	-60 (-75)	+200 (+390)



Ordering information key

H2R
Homogenizer packing set

50 x 65 x 20
Housing dimensions
(d x D x L in mm)

Sealing material
See the material matrix on **page 8–9**

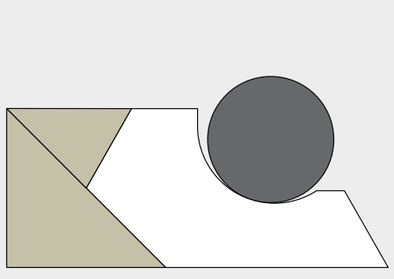
d f8	D H10	L +0.2	R max.	c min.	Ordering information
mm					–
10	20	15	0.4	4	H2R 10×20×15 Sealing material / Energizer material
12	22	15	0.4	4	H2R 12×22×15 Sealing material / Energizer material
15	25	15	0.4	4	H2R 15×25×15 Sealing material / Energizer material
16	26	15	0.4	4	H2R 16×26×15 Sealing material / Energizer material
18	28	15	0.4	4	H2R 18×28×15 Sealing material / Energizer material
20	30	15	0.4	4	H2R 20×30×15 Sealing material / Energizer material
21	31	15	0.4	4	H2R 21×31×15 Sealing material / Energizer material
22	32	15	0.4	4	H2R 22×32×15 Sealing materia / Energizer material l
24	34	15	0.4	4	H2R 24×34×15 Sealing material / Energizer material
25	35	15	0.4	4	H2R 25×35×15 Sealing material / Energizer material
28	38	15	0.4	4	H2R 28×38×15 Sealing material / Energizer material
30	40	15	0.4	4	H2R 30×40×15 Sealing material / Energizer material
32	42	15	0.4	4	H2R 32×42×15 Sealing material / Energizer material
35	45	15	0.4	4	H2R 35×45×15 Sealing material / Energizer material
36	46	15	0.4	4	H2R 36×46×15 Sealing material / Energizer material
38	48	15	0.4	4	H2R 38×48×15 Sealing material / Energizer material
39	49	15	0.4	4	H2R 39×49×15 Sealing material / Energizer material
40	50	15	0.4	4	H2R 40×50×15 Sealing material / Energizer material
42	57	20	0.4	5	H2R 42×57×20 Sealing material / Energizer material
45	60	20	0.4	5	H2R 45×60×20 Sealing material / Energizer material
48	63	20	0.4	5	H2R 48×63×20 Sealing material / Energizer material
50	65	20	0.4	5	H2R 50×65×15 Sealing material / Energizer material
52	67	20	0.4	5	H2R 52×67×20 Sealing material / Energizer material
53	68	20	0.4	5	H2R 53×68×20 Sealing material / Energizer material
55	70	20	0.4	5	H2R 55×70×20 Sealing material / Energizer material
57	72	20	0.4	5	H2R 57×72×20 Sealing material / Energizer material
58	73	20	0.4	5	H2R 58×73×20 Sealing material / Energizer material
60	75	20	0.4	5	H2R 60×75×20 Sealing material / Energizer material
62	77	20	0.4	5	H2R 62×77×20 Sealing material / Energizer material
63	78	20	0.4	5	H2R 63×78×20 Sealing material / Energizer material
65	80	20	0.4	5	H2R 65×80×20 Sealing material / Energizer material
68	83	20	0.4	5	H2R 68×83×20 Sealing material / Energizer material
70	85	20	0.4	5	H2R 70×85×20 Sealing material / Energizer material
75	90	20	0.4	5	H2R 75×90×20 Sealing material / Energizer material
79	94	20	0.4	5	H2R 79×94×20 Sealing material / Energizer material
80	95	20	0.4	5	H2R 80×95×20 Sealing material / Energizer material
82.5	102.5	25	0.4	6	H2R 82.5×102.5×25 Sealing material / Energizer material
85	105	25	0.4	6	H2R 85×105×25 Sealing material / Energizer material
90	110	25	0.4	6	H2R 90×110×25 Sealing material / Energizer material
95	115	25	0.4	6	H2R 95×115×25 Sealing material / Energizer material
100	120	25	0.4	6	H2R 100×120×25 Sealing material / Energizer material
105	125	25	0.4	6	H2R 105×120×25 Sealing material / Energizer material
108	128	25	0.4	6	H2R 108×128×25 Sealing material / Energizer material
110	130	25	0.4	6	H2R 110×130×25 Sealing material / Energizer material
115	135	25	0.4	6	H2R 115×135×25 Sealing material / Energizer material
120	140	25	0.4	6	H2R 120×140×25 Sealing material / Energizer material
125	145	25	0.4	6	H2R 125×145×25 Sealing material / Energizer material
127	147	25	0.4	6	H2R 127×147×25 Sealing material / Energizer material
130	150	25	0.4	6	H2R 130×150×25 Sealing material / Energizer material
132	152	25	0.4	6	H2R 132×152×25 Sealing material / Energizer material
135	155	25	0.4	6	H2R 135×155×25 Sealing material / Energizer material
140	160	25	0.4	6	H2R 140×160×25 Sealing material / Energizer material
145	165	25	0.4	6	H2R 145×165×25 Sealing material / Energizer material
150	170	25	0.4	6	H2R 150×170×25 Sealing material / Energizer material

NOTE: Due to our flexible manufacturing process we are able to produce any other dimension on request

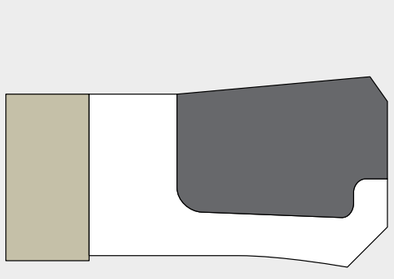
Alternative solutions – standard and customized

As these examples show, SKF can adapt any homogenizer sealing solution to meet your specific sealing requirements.

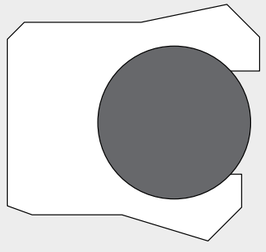
Hygienic seals for sterile and contamination-free processing.



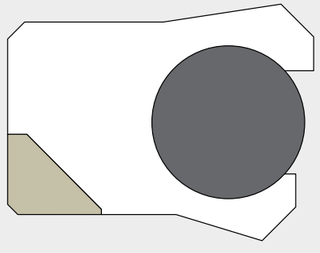
Fully customized solution
Composite seal with pressure-adaptive, double-triangular anti-extrusion rings



Fully customized solution
Special compact seal with anti-extrusion ring



Standard seal profile S03-F
O-ring energized compact seal



Modified seal profile S04
O-ring energized compact seal with integrated anti-extrusion ring

Rotary unions

High-performance seals for rotary unions in beverage filling systems.

Friction and flow issues

In typical bottling and filling systems, rotary unions transfer one or multiple fluids from the stationary part of the machine to a series of rotating filling stations. Also known as swivel joints, rotary unions are subject to several factors that make effective sealing critical, but difficult to achieve.

Continuous rotation and exposure to beverages and gases with low lubricant properties results in high friction, and with it seal wear. Caustic cleaning agents and soft counterfaces also make low-friction sealing materials and designs a necessity. But seals must also be flexible enough to compensate for coaxiality problems that affect rotating guidance systems.

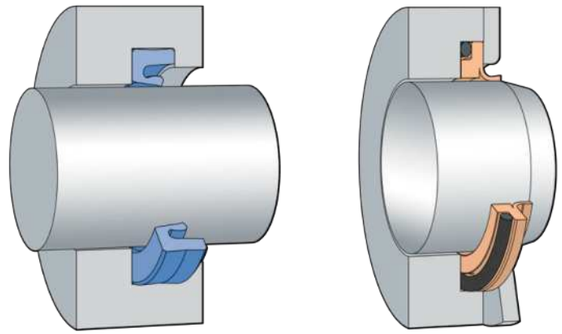
SKF sealing solutions

Seals from SKF deliver the flexible, low-friction performance that rotary union applications demand. Our springless sealing solutions include options for direct retrofits as well as high-speed, high-temperature conditions.

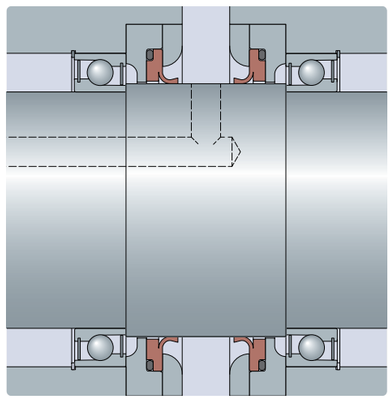
Benefits include:

- Reduced seal wear
- Greater operating stability
- Higher productivity
- Less unplanned downtime
- Reduced maintenance

Discover more on our website.
Click or scan here:



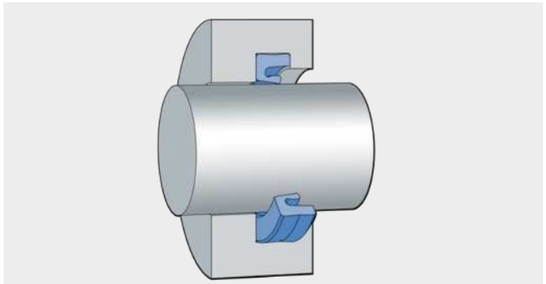
Reliable sealing solutions for automated bottling operations.



Standardized sealing solutions for rotary unions

R1U

This springless rotary lip seal features a flexible, low-friction lip design that delivers good lip tracking ability despite any eccentricities. The increased front section of the sealing lip compensates potential wear. The solid static lip and an oversized outside diameter helps prevent the seal from rotating in the housing. R1U seals do not require axially open housings, they can be easily snapped into closed seal grooves. This seals are suitable for speeds up to 0.5 m/s and pressures up to 10 bar*.



1. Solid static lip increases contact force to improve seal stability
2. Sealing lip optimized to compensate for wear
3. Shortened seal length optimizes contact force under pressure
4. Optimized hinge section reduces friction and improves tracking
5. Stable fit in housing

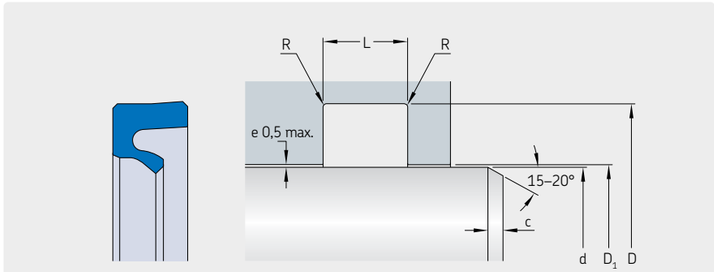
General dimensions

d f8	D H10	L +0.2	D_1 max.	R max.	c min.
mm					
20 - 50	d+10	8	d+6	0.4	4
50.1 - 150	d+15	10	d+9	0.4	5
150.1 - 250	d+20	14	d+12	0.4	6

Typical materials for the R1U

Material	Temperature range °C (°F)	
H-ECOPUR	-20 (-5)	+110 (+230)
H-ECOPUR 95A-NC	-20 (-5)	+110 (+230)
H-ECOPUR 95A-blue	-20 (-5)	+110 (+230)
ECOPUR 95A-bl-FG	-50 (-60)	+100 (+210)

* Max. values of application parameters (e.g. pressure, speed, temp. or e-gap) should not be applied continuously nor simultaneously.



Ordering information key

R1U
Springless rotary lip seal

50 x 60 x 8
Housing dimensions
(d x D x L in mm)

Sealing material
See the material matrix on **page 8–9**

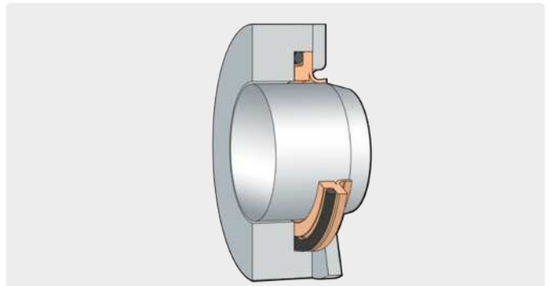
d f8	D H10	L +0.2	D_1 max.	R max.	c min.	Ordering information
mm						–
20	30	8	26	0.4	4	R1U 20×30×8 Sealing material
21	31	8	27	0.4	4	R1U 21×31×8 Sealing material
22	32	8	28	0.4	4	R1U 22×32×8 Sealing material
24	34	8	30	0.4	4	R1U 24×34×8 Sealing material
25	35	8	31	0.4	4	R1U 25×35×8 Sealing material
28	38	8	34	0.4	4	R1U 28×38×8 Sealing material
30	40	8	36	0.4	4	R1U 30×40×8 Sealing material
32	42	8	38	0.4	4	R1U 32×42×8 Sealing material
35	45	8	41	0.4	4	R1U 35×45×8 Sealing material
36	46	8	42	0.4	4	R1U 36×46×8 Sealing material
38	48	8	44	0.4	4	R1U 38×48×8 Sealing material
39	49	8	45	0.4	4	R1U 39×49×8 Sealing material
40	50	8	46	0.4	4	R1U 40×50×8 Sealing material
42	52	8	48	0.4	4	R1U 42×52×8 Sealing material
45	55	8	51	0.4	4	R1U 45×55×8 Sealing material
48	58	8	54	0.4	4	R1U 48×58×8 Sealing material
50	60	8	56	0.4	4	R1U 50×60×8 Sealing material
52	67	10	61	0.4	5	R1U 52×67×10 Sealing material
53	68	10	62	0.4	5	R1U 53×68×10 Sealing material
55	70	10	64	0.4	5	R1U 55×70×10 Sealing material
57	72	10	66	0.4	5	R1U 57×72×10 Sealing material
58	73	10	67	0.4	5	R1U 58×73×10 Sealing material
60	75	10	69	0.4	5	R1U 60×75×10 Sealing material
62	77	10	71	0.4	5	R1U 62×77×20 Sealing material
63	78	10	72	0.4	5	R1U 63×78×10 Sealing material
65	80	10	74	0.4	5	R1U 65×80×10 Sealing material
68	83	10	77	0.4	5	R1U 68×83×10 Sealing material
70	85	10	79	0.4	5	R1U 70×85×10 Sealing material
75	90	10	84	0.4	5	R1U 75×90×10 Sealing material
79	94	10	88	0.4	5	R1U 79×94×10 Sealing material
80	95	10	89	0.4	5	R1U 80×95×10 Sealing material
82.5	97.5	10	91.5	0.4	5	R1U 82.5×97.5×10 Sealing material
85	100	10	94	0.4	5	R1U 85×100×10 Sealing material
90	105	10	99	0.4	5	R1U 90×105×10 Sealing material
95	110	10	104	0.4	5	R1U 95×110×10 Sealing material
100	115	10	109	0.4	5	R1U 100×115×10 Sealing material
105	120	10	114	0.4	5	R1U 105×120×10 Sealing material
108	123	10	117	0.4	5	R1U 108×123×10 Sealing material
110	125	10	119	0.4	5	R1U 110×125×10 Sealing material
115	130	10	124	0.4	5	R1U 115×130×10 Sealing material
120	135	10	129	0.4	5	R1U 120×135×10 Sealing material
125	140	10	134	0.4	5	R1U 125×140×10 Sealing material
127	142	10	136	0.4	5	R1U 127×142×10 Sealing material
130	145	10	139	0.4	5	R1U 130×145×10 Sealing material
132	147	10	141	0.4	5	R1U 132×147×10 Sealing material
135	150	10	144	0.4	5	R1U 135×150×10 Sealing material
140	155	10	149	0.4	5	R1U 140×155×10 Sealing material
145	160	10	154	0.4	5	R1U 145×160×10 Sealing material
150	165	10	159	0.4	5	R1U 150×165×10 Sealing material
160	180	14	172	0.4	6	R1U 150×180×14 Sealing material
180	200	14	192	0.4	6	H2R 165×170×14 Sealing material
200	220	14	212	0.4	6	H2R 200×220×14 Sealing material
220	240	14	232	0.4	6	H2R 220×240×14 Sealing material
250	270	14	262	0.4	6	H2R 250×270×14 Sealing material

NOTE: Due to our flexible manufacturing process we are able to produce any other dimension on request

Standardized sealing solutions for rotary unions

R2U

This low-friction rotary lip seal is recommended for applications with speeds and temperatures that exceed the capabilities of the R1U design. When produced from PTFE materials, R2U seals are suitable for speeds up to 3 m/s and pressures up to 10 bar* (higher speeds are possible but may require the use of hardened, or plated shaft materials).



1. Axially loaded O-ring prevents seal rotation in housing
2. Slightly compressed fit eliminates media ingress
3. Lip support for higher pressure applications
4. Wafer lip design provides effective sealing with low friction

General dimensions

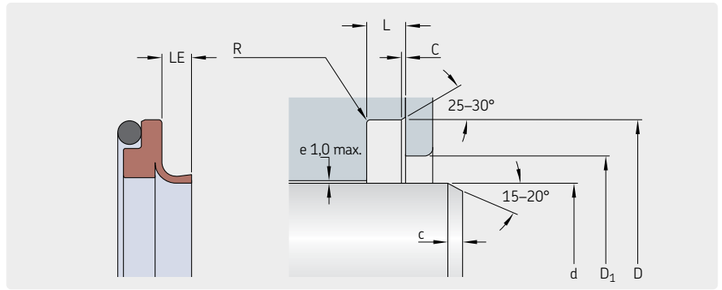
d h8	D H8	L ±0.08	D_1 H9	R max.	c min.	C ±0.1	LE max.
mm							
18 – 25	d+13	3.5	d+6	0.4	4.5	0.5	3.5
25.1 – 50	d+14	4.25	d+6	0.4	5	0.5	4
50.1 – 75	d+14	4.25	d+6	0.4	5.5	0.5	4.25
75.1 – 150	d+16	5	d+6	0.4	6.5	0.5	4.75

Typical materials for the R2U

Material	Temperature range °C (°F)	
SKF Ecoflon 14. 754	-200 (-330)	+260 (+500)
SKF Ecoflon 16	-200 (-330)	+260 (+500)
721	-200 (-330)	+260 (+500)
SKF Ecowear 1000. 776	-200 (-330)	+90 (+194)
795	-200 (-330)	+100 (+210)

NOTE: O-rings are available in different food-grade elastomeric materials.

* Max. values of application parameters (e.g. pressure, speed, temp. or e-gap) should not be applied continuously nor simultaneously.



Ordering information key

R2U
Springless rotary lip seal

50 x 64 x 4.25
Housing dimensions
(d x D x L in mm)

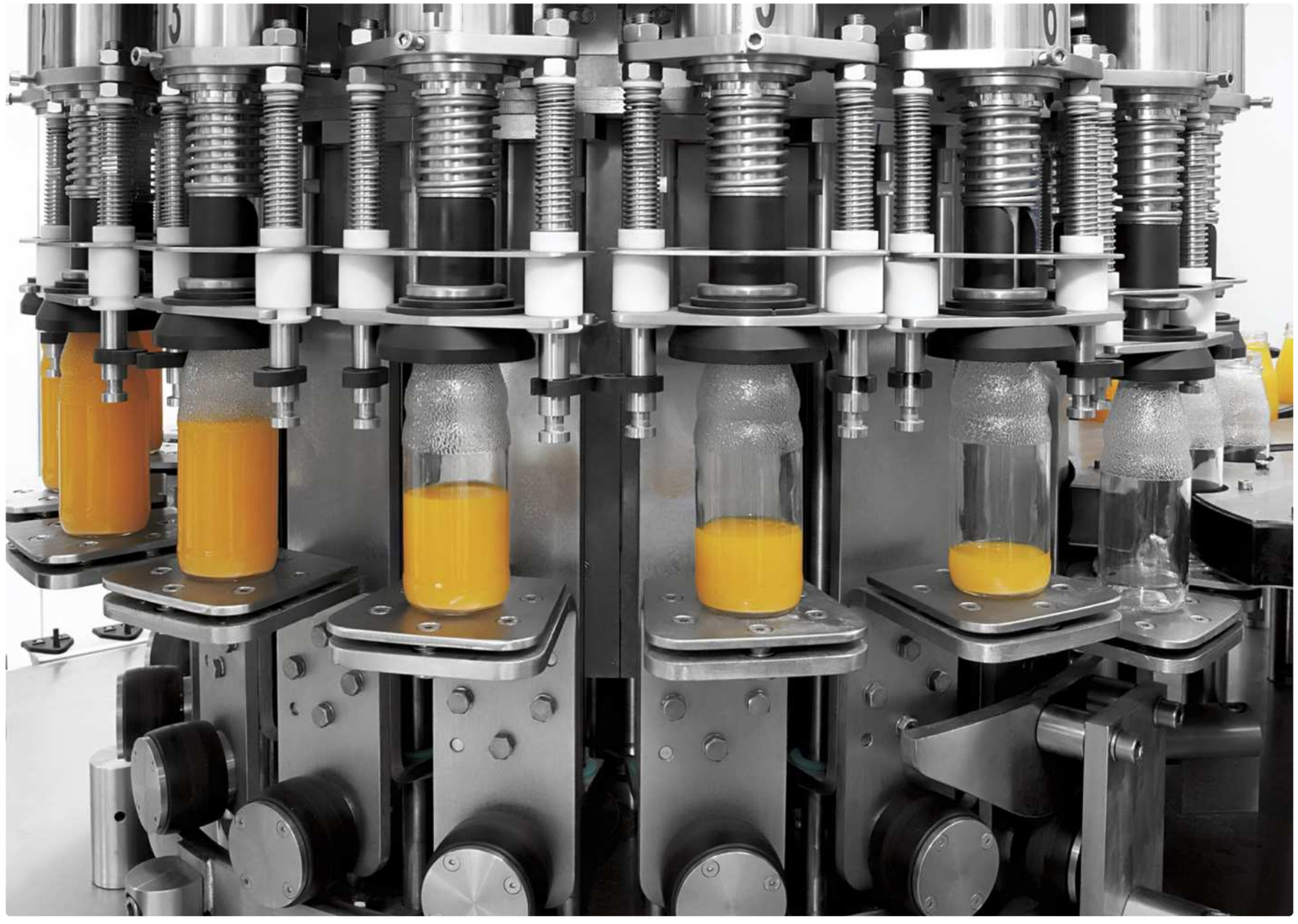
Sealing material
See the material matrix on **page 8–9**

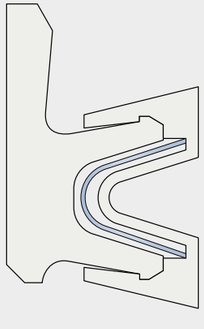
d h8	D H8	L ±0.08	D_1 H9	R max.	c min.	C ±0.1	LE max.	Ordering information
mm								–
18	31	3.5	24	0.4	4.5	0.5	3.5	R2U 18×31×3.5 Sealing material
20	33	3.5	26	0.4	4.5	0.5	3.5	R2U 20×33×3.5 Sealing material
21	34	3.5	27	0.4	4.5	0.5	3.5	R2U 21×34×3.5 Sealing material
22	35	3.5	28	0.4	4.5	0.5	3.5	R2U 22×35×3.5 Sealing material
24	37	3.5	30	0.4	4.5	0.5	3.5	R2U 24×37×3.5 Sealing material
25	38	3.5	31	0.4	4.5	0.5	3.5	R2U 25×38×3.5 Sealing material
28	42	4.25	34	0.4	5	0.5	4	R2U 28×42×4.25 Sealing material
30	44	4.25	36	0.4	5	0.5	4	R2U 30×44×4.25 Sealing material
32	46	4.25	38	0.4	5	0.5	4	R2U 32×46×4.25 Sealing material
35	49	4.25	41	0.4	5	0.5	4	R2U 35×49×4.25 Sealing material
36	50	4.25	42	0.4	5	0.5	4	R2U 36×50×4.25 Sealing material
38	52	4.25	44	0.4	5	0.5	4	R2U 38×52×4.25 Sealing material
39	53	4.25	45	0.4	5	0.5	4	R2U 39×53×4.25 Sealing material
40	54	4.25	46	0.4	5	0.5	4	R2U 40×54×4.25 Sealing material
42	56	4.25	48	0.4	5	0.5	4	R2U 42×56×4.25 Sealing material
45	59	4.25	51	0.4	5	0.5	4	R2U 45×59×4.25 Sealing material
48	62	4.25	54	0.4	5	0.5	4	R2U 48×62×4.25 Sealing material
50	64	4.25	56	0.4	5	0.5	4	R2U 50×64×4.25 Sealing material
52	66	4.25	58	0.4	5.5	0.5	4.25	R2U 52×66×4.25 Sealing material
53	67	4.25	59	0.4	5.5	0.5	4.25	R2U 53×67×4.25 Sealing material
55	69	4.25	61	0.4	5.5	0.5	4.25	R2U 55×69×4.25 Sealing material
57	71	4.25	63	0.4	5.5	0.5	4.25	R2U 57×71×4.25 Sealing material
58	72	4.25	64	0.4	5.5	0.5	4.25	R2U 58×72×4.25 Sealing material
60	74	4.25	66	0.4	5.5	0.5	4.25	R2U 60×74×4.25 Sealing material
62	76	4.25	68	0.4	5.5	0.5	4.25	R2U 62×76×4.25 Sealing material
63	77	4.25	69	0.4	5.5	0.5	4.25	R2U 63×77×4.25 Sealing material
65	79	4.25	71	0.4	5.5	0.5	4.25	R2U 65×79×4.25 Sealing material
68	82	4.25	74	0.4	5.5	0.5	4.25	R2U 68×82×4.25 Sealing material
70	84	4.25	76	0.4	5.5	0.5	4.25	R2U 70×84×4.25 Sealing material
75	89	4.25	81	0.4	5.5	0.5	4.25	R2U 75×89×4.25 Sealing material
79	95	5	85	0.4	6.5	0.5	4.75	R2U 79×95×5 Sealing material
80	96	5	86	0.4	6.5	0.5	4.75	R2U 80×96×5 Sealing material
82.5	98.5	5	88.5	0.4	6.5	0.5	4.75	R2U 82.5×98.5×5 Sealing material
85	101	5	91	0.4	6.5	0.5	4.75	R2U 85×101×5 Sealing material
90	106	5	96	0.4	6.5	0.5	4.75	R2U 90×106×5 Sealing material
95	111	5	101	0.4	6.5	0.5	4.75	R2U 95×111×5 Sealing material
100	116	5	106	0.4	6.5	0.5	4.75	R2U 100×116×5 Sealing material
105	121	5	111	0.4	6.5	0.5	4.75	R2U 105×121×5 Sealing material
108	124	5	114	0.4	6.5	0.5	4.75	R2U 108×124×5 Sealing material
110	126	5	116	0.4	6.5	0.5	4.75	R2U 110×126×5 Sealing material
115	131	5	121	0.4	6.5	0.5	4.75	R2U 115×131×5 Sealing material
120	136	5	126	0.4	6.5	0.5	4.75	R2U 120×136×5 Sealing material
125	141	5	131	0.4	6.5	0.5	4.75	R2U 125×141×5 Sealing material
127	143	5	133	0.4	6.5	0.5	4.75	R2U 127×143×5 Sealing material
130	146	5	136	0.4	6.5	0.5	4.75	R2U 130×146×5 Sealing material
132	148	5	138	0.4	6.5	0.5	4.75	R2U 132×148×5 Sealing material
135	151	5	141	0.4	6.5	0.5	4.75	R2U 135×151×5 Sealing material
140	156	5	146	0.4	6.5	0.5	4.75	R2U 140×156×5 Sealing material
145	161	5	151	0.4	6.5	0.5	4.75	R2U 145×161×5 Sealing material
150	166	5	156	0.4	6.5	0.5	4.75	R2U 150×166×5 Sealing material

NOTE: Due to our flexible manufacturing process we are able to produce any other dimension on request

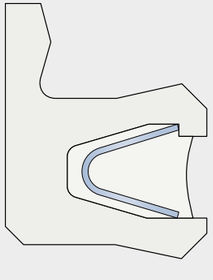
Alternative solutions – standard and customized

As these examples show, SKF can adapt any rotary union sealing solution to meet your specific sealing requirements.

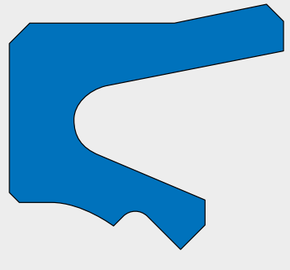




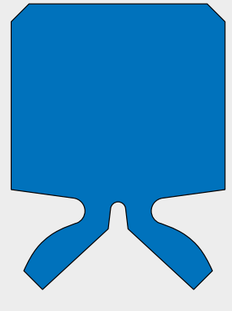
Customized solution
Flanged encapsulated SKF Spectraseal



Customized solution
Silicone-filled flanged SKF Spectraseal



Customized seal profile
Single-acting springless rotary seal



Customized seal profile
Double-acting rotary seal

Standardized hygienic shaft seals

Minimizing contamination risks in food processing

Upholding hygienic sealing is critical in food and beverage processing to prevent contamination and maintain product integrity. Many sealing solutions create dead spots, allowing residues to accumulate, increasing the risk of bacterial growth and potential product recalls.

Seals used in these applications must withstand high-pressure washdowns, aggressive cleaning agents, and strict compliance with hygiene standards such as CIP (Clean-in-Place) and SIP (Sterilization-in-Place).

SKF sealing solutions

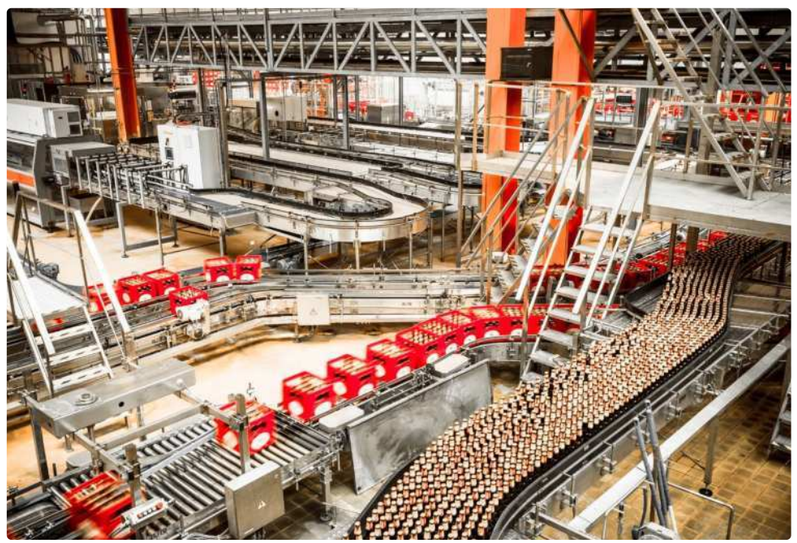
The SKF R11-VL hygienic shaft seal is engineered to eliminate dead spots, reducing contamination risks and improving operational efficiency.

Its PTFE material is FDA, EU, and GMP-compliant, providing durability and high resistance to wear. The seal also features:

- Hygienic design – Prevents residue accumulation and bacterial growth.
- Optimized sealing – Provide consistent performance in high-speed or respectively high-pressure applications.
- Easy installation & removal – Special insertions in the clamping ring enable quick assembly and disassembly.
- Custom-fit options – Available for various shaft diameters to meet industry-specific requirements.

Discover more on our website.
Click or scan here:

Our seals help prevent contamination in food processing lines.

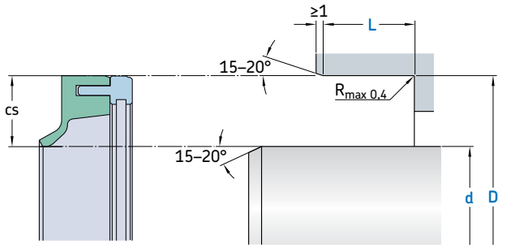


SKF sealing solutions effectively increase operational efficiency.

Standardized sealing solutions for hygienic shaft seal

R11-VL

SKF's PTFE rotary shaft seal is engineered with hygienic design principles to eliminate dead spots that can cause contamination and lead to product recalls. The R11-VL seal, adhering to these principles, is crucial for industrial processes like clean-in-place (CIP) and sterilization-in-place (SIP).



Surface roughness	R_{tmax}	R_a
	µm	
Sliding surface	≤ 2.0	0.05–0.2
Bottom of groove	≤ 6.3	≤ 1.6
Groove face	≤ 15	≤ 3

Hardness: Min 45 HRC (55 HRC recommended), hardened depth > 0.3 mm. Bearing area: 50–95% and a cutting depth of 0.5 Rz based on Cref = 0%

Operating parameters

Material		Temperature[1]		Speed[2]	Pressure[3]
Seal	Clamping ring	from	to	max	max
		°C		m/s	bar *(MPa)*
PTFE 5858	1.4571	–200	+260	20	5 *(0.5)*
PTFE 8914	1.4305	–200	+260	20	5 *(0.5)*
PTFE 9598	1.4571	–200	+260	20	5 *(0.5)*

IMPORTANT NOTE: The stated operating conditions represent general indications. It is recommended not to use all maximum values simultaneously. More combinations of material are possible on request.
[1] Application temperature
[2] Surface speed limit values are valid only in the presence of a lubrication film
[3] The R11-VL is primarily designed for unpressurised applications. The specific values for pressure, speed and temperature are maximum values. Special versions are available for the combination of these parameters

Standard dimensions [1]

d h11 over	D H8 incl.	L	cs	Designation	ABAS [2] order no:
mm					
10	**22**	7	6.0	R11 VL - 10x22x7-M	2100315
12	**22**	7	5.0	R11 VL - 12x22x7-M	763148
12	**28**	7	8.0	R11 VL - 12x28x7-M	761914
15	**30**	7	7.5	R11 VL - 15x30x7-M	2100316
15	**35**	7	10.0	R11 VL - 15x35x7-M	2100317
17	**35**	7	9.0	R11 VL - 17x35x7-M	2100318
18	**30**	7	6.0	R11 VL - 18x30x7-M	2100319
20	**30**	7	5.0	R11 VL - 20x30x7-M	2100320
20	**32**	7	6.0	R11 VL - 20x32x7-M	2100321
20	**35**	7	7.5	R11 VL - 20x35x7-M	2100322
20	**40**	7	10.0	R11 VL - 20x40x7-M	2100323
22	**40**	7	9.0	R11 VL - 22x40x7-M	2100324
25	**40**	7	7.5	R11 VL - 25x40x7-M	2100325
25	**42**	7	8.5	R11 VL - 25x42x7-M	2100326
28	**40**	7	6.0	R11 VL - 28x40x7-M	2100327
28	**47**	7	9.5	R11 VL - 28x47x7-M	2100328
30	**40**	7	5.0	R11 VL - 30x40x7-M	2100329
30	**42**	7	6.0	R11 VL - 30x42x7-M	2100330
30	**47**	7	8.5	R11 VL - 30x47x7-M	2100333
30	**52**	7	11.0	R11 VL - 30x52x7-M	2100334
32	**47**	7	7.5	R11 VL - 32x47x7-M	2100335
35	**47**	7	6.0	R11 VL - 35x47x7-M	2100336
40	**52**	7	6.0	R11 VL - 40x52x7-M	2100337
42	**62**	8	10.0	R11 VL - 42x62x8-M	2100338
45	**62**	8	8.5	R11 VL - 45x62x8-M	758166
45	**65**	8	10.0	R11 VL - 45x65x8-M	2100339

Standard dimensions [1]

d h11 over	D H8 incl.	L	cs	Designation	ABAS [2] order no:
mm					
50	**68**	8	9.0	R11 VL - 50x68x8-M	2100340
50	**72**	8	11.0	R11 VL - 50x72x8-M	2100341
55	**70**	8	7.5	R11 VL - 55x70x8-M	2100342
55	**80**	8	12.5	R11 VL - 55x80x8-M	2100343
60	**75**	8	7.5	R11 VL - 60x75x8-M	2100344
60	**80**	8	10.0	R11 VL - 60x80x8-M	2100345
60	**85**	8	12.5	R11 VL - 60x85x8-M	2100346
65	**85**	10	10.0	R11 VL - 65x85x10-M	2100347
65	**90**	10	12.5	R11 VL - 65x90x10-M	2100348
70	**90**	10	10.0	R11 VL - 70x90x10-M	2100349
70	**100**	10	15.0	R11 VL - 70x100x10-M	2100350
75	**95**	10	10.0	R11 VL - 75x95x10-M	2100351
75	**100**	10	12.5	R11 VL - 75x100x10-M	2100352
80	**100**	10	10.0	R11 VL - 80x100x10-M	2100353
80	**110**	10	15.0	R11 VL - 80x110x10-M	2100354
85	**100**	12	7.5	R11 VL - 85x100x12-M	2100355
90	**120**	12	15.0	R11 VL - 90x120x12-M	2100356
95	**120**	12	12.5	R11 VL - 95x120x12-M	2100357
100	**120**	12	10.0	R11 VL - 100x120x12-M	2100358
100	**130**	12	15.0	R11 VL - 100x130x12-M	2100359
110	**130**	12	10.0	R11 VL - 110x130x12-M	2100360
125	**150**	12	12.5	R11 VL - 125x150x12-M	2100361

[1] Due to our flexible manufacturing process we are able to produce other dimension on request
[2] Order numbers refer to the material combination WSE-PTFE-5858 and 1.4571

Power transmission seals

Reliable sealing for rotating shafts in machinery not in direct contact with food or beverage. SKF offers advanced seals and Speedi-Sleeves that deliver superior durability and performance.

Keeping food production smooth and reliable.

HMS5 Seals

HMS5 radial shaft seal offers robust sealing for industrial applications with a rubber outside diameter for optimal performance on rough surfaces. Its spring-loaded lip quickly adapts to dynamic runout, while the RG nitrile rubber facilitates excellent oil compatibility, wear resistance, and aging durability. The seal operates in temperatures from –40°C to +100°C and handles speeds up to 14 m/s.

Discover more on our website.
Click or scan here:

HMSA10 Seals

HMSA10 radial shaft seal features a rubber outer diameter, spring-loaded lip for dynamic runout, and an auxiliary lip for added sealing. Made from durable RG nitrile rubber, it offers excellent wear resistance, oil compatibility, and operates in temperatures from –40°C to +100°C with speeds up to 14 m/s, providing reliable performance and reduced maintenance.

Discover more on our website.
Click or scan here:

Speedi-Sleeve

Optimized material and manufacturing processes reduce wear and extend service life, while providing compliance with food safety regulations.

Discover more on our website.
Click or scan here:

CRW Series

CRW1. CRWH1. CRWA1. and CRWHA1 radial shaft seals feature the low-friction SKF WAVE lip design, ideal for retaining lubricants and excluding contaminants. With a metal outer diameter for easy installation, they come with durable nitrile or SKF Duralife fluoro rubber lips, and optional SKF Bore Tite Coating to seal housing imperfections.

Discover more on our website.
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