

AUTOMOTIVE | AEROSPACE | FOOD & BEVERAGE | FLUID TECHNOLOGIES | MOBILE MACHINERY

FRANCEJOINT

SEALING SYSTEMS



FACE SEALS
FLOATING SEALS





FRANCEJOINT

SEALING SYSTEMS

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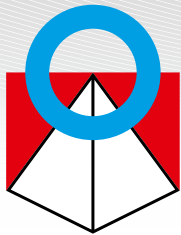
○ FACE SEALS - FLOATING SEALS

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Site n°1: Compression Molding – Injection Molding
– Water Jet Cutting – Finition – Quality Control – Logistics

Site N°2: Administrative Area – Research & Development – Machining – Tooling



FRANCEJOINT
SEALING SYSTEMS

Since 1981, FRANCE JOINT – SEALING SYSTEMS has been designing, manufacturing and distributing seals and precision rubber parts for its customers for whom quality is a determining factor.

Faced with tough competition among the big decision-makers of the industrial world, FRANCE JOINT has responded with innovation, research and development, experience in Best-Cost manufacturing, and a consistently high level of quality, thanks to certificates ISO 9001, IATF 16949, EN/AS 9100 and ISO 14001.

Today, FRANCE JOINT is working in close collaboration with its customers, meeting challenges head on with success. Automotive, Aeronautics, Mobile hydraulics, Beverages & Foods, Fluid engineering industries... every solution emerges from a uniquely individual partnership, constantly fostered and renewed.

Our prime objective, based on unrivalled quality, is to find the most suitable solutions for ensuring that

you will stand out in what has become an extremely competitive domain. Our position of excellence has led us since the birth of our company to acquire the tools necessary to anticipate and prevent risks and maximize our service; the ultimate objective being of course to help you keep ahead of developments in this more and more technological market.



AUTOMOTIVE



AERONAUTICS



BEVERAGES & FOODS



FLUID ENGINEERING



MOBILE HYDRAULICS



Compression molding



Injection molding



Machining / Tooling



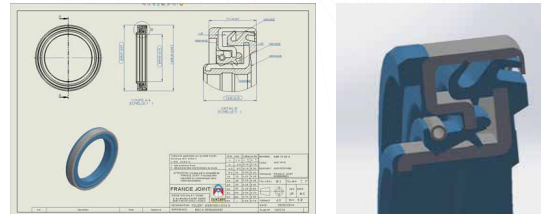
Logistics / Packaging

RESEARCH & DEVELOPMENT

Innovation, reliability, safety, minimization of risk: your expectations are our daily concern. To get from the idea to the finished product demands firm managerial control over a wide range of projects in addition to expertise in manufacturing.

FRANCE JOINT's contributors, who are as much inventors as technicians, get the best of fully automated, state-of-the-art technology that takes them from drawing-board to prototype and finally to assembly line. From writing specifications to putting on a major technical event through designing (3D Solidwrks software) and testing for validation and compliance, FRANCE JOINT engineering works hand in hand with you to find the best solutions guaranteeing the level of expected performance.

More than 1000 compounds integrating elastomers, PTFE materials, Polyurethane, or even thermoplastics, as many solutions vis-a-vis the new most complex requirements which will put you in pole position today so that we can all be winners tomorrow. FRANCE JOINT puts in place qualifications in order to examine the behavior of its seals according to various parameters intervening on frictions, pressures, temperatures, speeds, strokes, leakages...

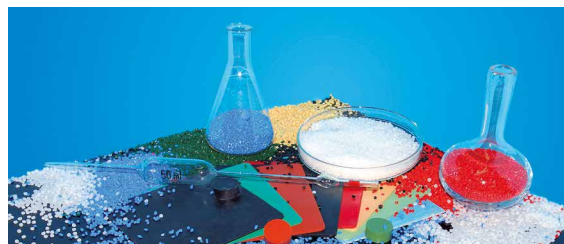


QUALITY IN OUR CONCERNS

Several certificates obtained, ISO 9001, IATF 16949, EN/AS 9100 and ISO 14001, testify to the quality department's commitment to constant progress at every level of the company, at all stages of the realization, particularly where continual improvement is what has made FRANCE JOINT the name it is today.

Ambitious with customer satisfaction a priority, FRANCE JOINT has thus obtained the most powerful methods (PPAP, AMDEC, value analysis, Audits, MRP, 8D analysis, SPC, R&R ...) in order to optimize simultaneously the capacity of machines and processes, operational manpower performances, organizational methods, and finally, product and financial results.

FRANCE JOINT guarantees the best technology and pursues its daily objectives of a "Zero defects" production, through physico chemical controls (rheometer, spectrometer, durometer...), through dimensional and final aspects (unit controlling equipment, 3D camera ...). This is because the search for competitiveness is as important as the search for continuous improvement.



3D test device





○ FACE SEALS - FLOATING SEALS

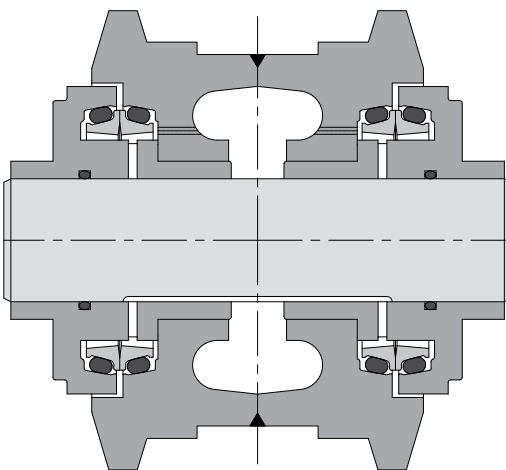
1. Description

Track vehicles and construction machinery are constantly evolving, as they face extreme environments and come into contact with dust, water and mud splashes, and stone, as well as the effects of ultra violet rays and aggressive fluids. Such restrictions mean that strong floating seals must be used that are able to resist abrasion and corrosion.

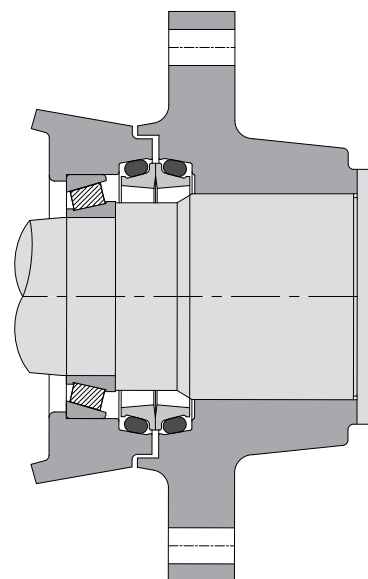
Floating seals are characterised by two identical metal friction rings mounted one on top of the other and centred in their groove by two rubber components that exercise a uniform axial pressure between the seal and the housing. The first metal ring remains static in its housing while the other, in rotation, ensures the sealing by creating friction between the two components in contact. The mating surface material of the friction ring is lapped to a width of approximately 2.5 mm.

The metal friction rings are conically designed with a perpendicular angle, so that when the seal rings come in contact there is a wedge-shaped gap perpendicular to the axis, which encourages the flow of lubricant towards the seal surfaces. Additionally, the friction exercised over time causes the friction surfaces to continually move towards the inside diameter of the seal, which provides resistance to significant wear and thus extends its longevity.

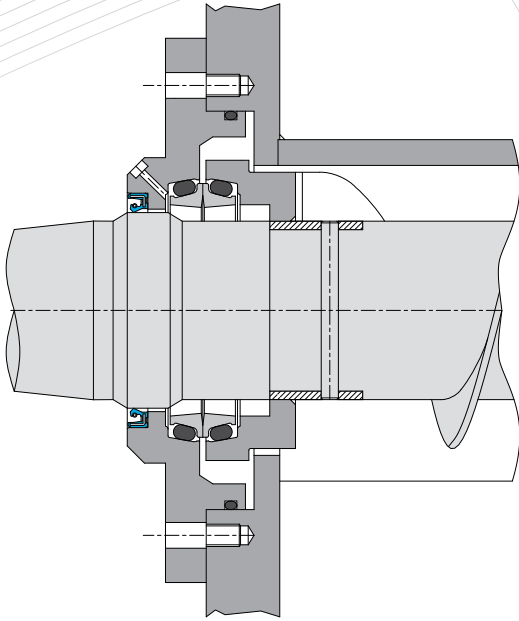
2. Applications



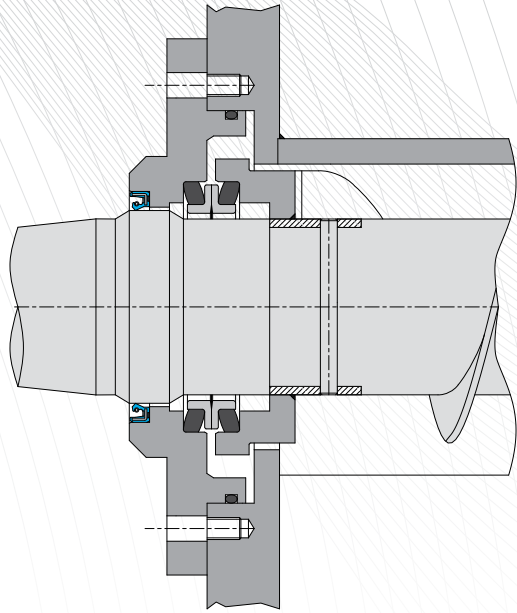
BECA 830: Excavator roller



BECA 830: Tractor axle



BECA 830: Screw conveyor for abrasive materials



BECA 831: Screw conveyor for abrasive materials

3. Materials

3.1 METAL PARTS

15CrMoNi Cast iron

The standard material used for metal parts is a cast iron that has been developed to resist extreme conditions (abrasive, corrosive and heavy-duty outdoor environments). It can support a speed up to 3 m/sec.

Chemical composition in %		C	3.2 - 3.8	P	< 0.2	Ni	0.4 - 0.6
	Mn	0.5 - 1.0	S	< 0.2	Mo	0.8 - 1.2	
	Si	1.0 - 2.0	Cr	14.0 - 16.0	V	≤ 0.2	

Hardness 65 - 72 HRC

Durinit Cast iron

Durinit is a special cast iron developed for applications with a maximum speed of 10 m/s.

Chemical composition in %		C	2.8 - 3.6	P	≤ 0.3	Ni	3.5 - 4.0
	Mn	0.3 - 0.9	S	≤ 0.1	Mo	0.3 - 0.5	
	Si	1.5 - 2.0	Cr	2.5 - 3.0	V	≤ 0.4	

Hardness 58 - 65 HRC

100Cr6 Bearing steel

100Cr6 steel is a more cost-effective alternative that is generally used as a spare part solution. This material can support a speed up to 2.2 m/sec.

Chemical composition in %					
C	0.8 - 1.0	P	< 0.02	Ni	< 0.2
Mn	0.2 - 0.4	S	< 0.02	Cu	< 0.2
Si	0.2 - 0.3	Cr	0.8 - 1.5	Mo	0.02 - 0.08

Hardness	65 - 72 HRC
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3.2 RUBBER PARTS

FKM (fluorinated rubber)

Rubbers must offer a strong compression set to guarantee that the axial force is maintained while the seal is in use.

Depending on their structure and fluorine content, fluoroelastomers can vary in terms of chemical resistance and resistance to cold.

Resistance to chemicals	Mineral oils and greases, ASTM n°1, IRM 902 and IRM 903 oils. Fire-resistant liquids (HFD) Silicone oils and greases Mineral and vegetable oils and greases Aliphatic hydrocarbons (propane, butane, petroleum) Aromatic hydrocarbons (benzene, toluene) Chlorinated hydrocarbons (trichlorethylene) Fuel (including high alcohol content) Atmospheric and ozone agents
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Compatibility issue	Glycol-based brake fluids Ammonia gas Organic acids with a low molecular weight (formic and acetic acids)
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Temperature range	-20°C / +180°C (short-term peak at +200°C)
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Hardness	60 Shore A 70 Shore A
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HNBR (Hydrogenated Nitrile Butadiene Rubber)

This HNBR-based elastomer is obtained through selective hydrogenation of the NBR's butadiene groups.

Resistance to chemicals	Aliphatic hydrocarbons Mineral and vegetable oils and greases Fire-resistant fluids (HFA, HFB and HFC) Diluted acids, saline solutions and bases for operation at an average temperature Water and steam up to +150°C Atmospheric and ozone agents
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Compatibility issue	Chlorinated hydrocarbons Polar solvents (ketones, esters and ethers) Strong acids
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Temperature range	-40°C/+150°C
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Hardness	60 Shore A 70 Shore A
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○ **NBR (Nitrile Butadiene Rubber)**

Nitrile rubber (NBR) is the general term for acrylonitrile-butadiene copolymer. The ACN content can vary between 18% and 50%. While the acrylonitrile content is important, the resistance to oil and fuel is more so. Conversely, the elasticity and compression set are not as good. The NBR has good mechanical properties and good wear resistance. However, its resistance to atmospheric agents and the ozone is relatively low.

Chemical resistance

Aliphatic hydrocarbons (propane, butane, petroleum, diesel fuel)
Mineral oils and greases
Fire-resistant fluids (HFA, HFB and HFC)
Diluted acids, low-temperature alkaline and saline solutions
Water (up to +100°C max)

Compatibility issue

Fuels with high aromatic content
Aromatic hydrocarbons (benzene)
Chlorinated hydrocarbons (trichlorethylene)
Polar solvents (ketone, acetone, acetic acid, ethylene-ester)
Strong acids
Glycol-based brake fluids
Atmospheric and ozone agents

Temperature range

-30°C/+100°C
-40°C / +100°C with particular NBRs

Hardness

50 Shore A
60 Shore A

○ **VMQ (silicone rubber: Methyl Vinyl Polysiloxane)**

Resistance to chemicals

Animal and vegetable oils and greases
Water for operation at an average temperature
Diluted saline solutions
Atmospheric and ozone agents

Compatibility issue

Superheated steam up to +120°C
Chlorinated hydrocarbons with a low molecular weight (trichlorethylene)
Aromatic hydrocarbons (benzene, toluene)
Atmospheric and ozone agents

Temperature range

-60°C/+200°C

Hardness

60 Shore A
65 Shore A
70 Shore A

3.3 CHEMICAL COMPATIBILITY

A "Chemical compatibility guide" catalogue can be downloaded from our website: www.francejoint.com

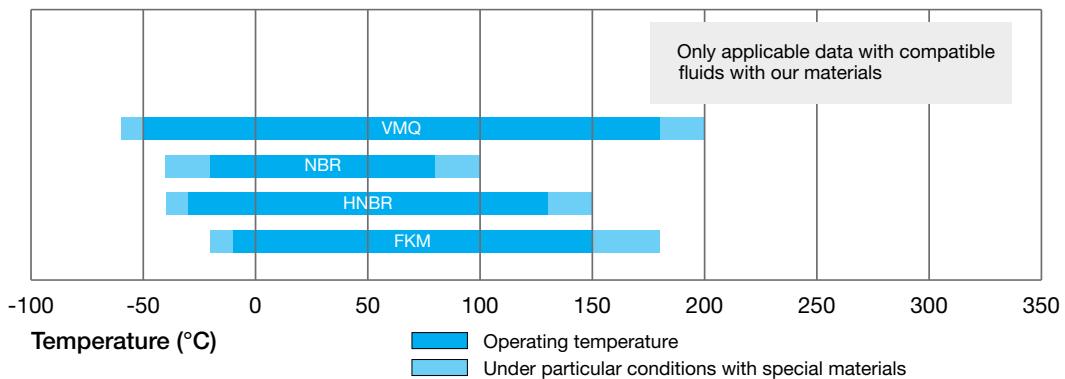
You can also use our online "**Chemical compatibility**" tool free of charge.

These two tools enable you to measure the behaviour of our materials that come into contact with the majority of existing fluids. The data displayed is the result of rigorous testing at the ambient temperature and takes previous publications into consideration. Test results are not fully representative because of the specific features of your application. The tests performed actually do not consider additives and impurities that may exist under actual conditions of use, nor the potential elevation of temperatures. Other parameters can also alter the behaviour of our materials, such as the hardness, persistence, abrasion, etc. We therefore recommend performing your own tests to verify the compatibility of our materials depending on your specific application. Our technical team can provide you with any additional information.

4. Technical data

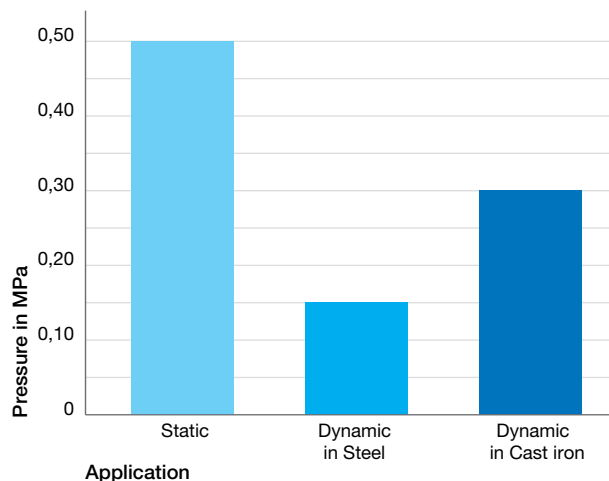
4.1 TEMPERATURE

Floating seals are temperature-limited because of their rubber parts. The table below sets out the thermal resistance of seals according to their materials.



4.2 PRESSURE

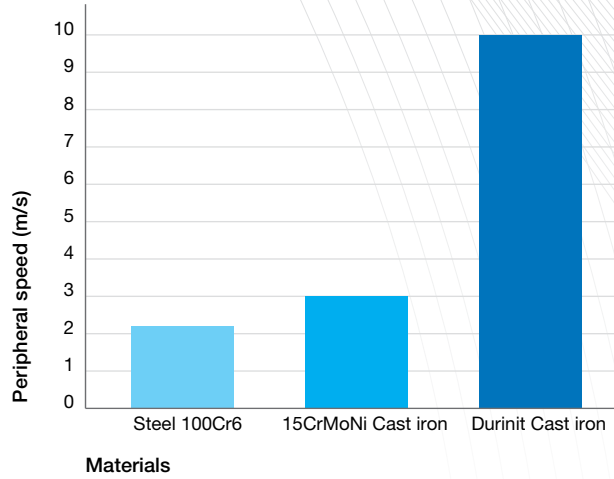
Floating seals can be used at different pressures, depending on the types of materials and applications. The graph below sets out the pressure levels (MPa) that must not be exceeded.



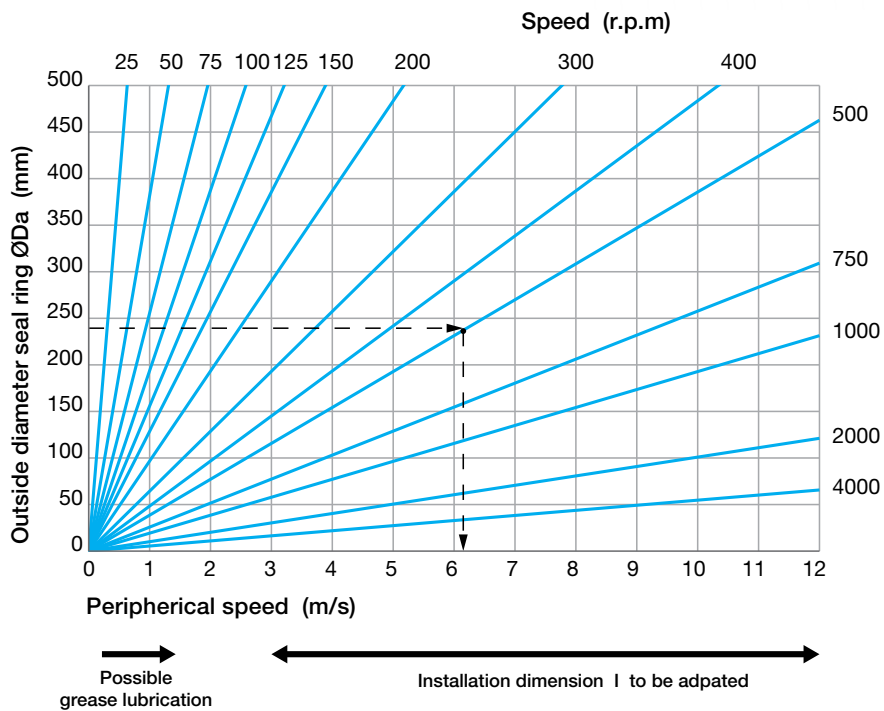
4.3 SPEED

Floating seals can withstand speeds of up to 10 m/s depending on the quality of the materials selected for the metal friction rings.

The graph below sets out the limitations of use according to the materials.



The graph below converts the rotation speed (rpm) into peripheral speed (m/s) according to the outside diameter ØDa of the seal.



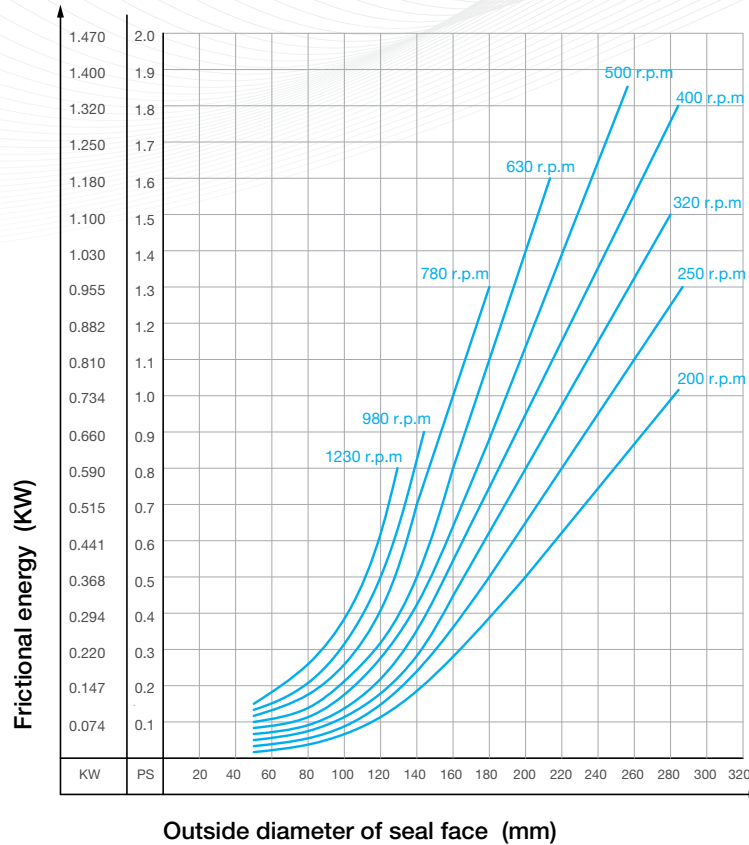
Example : for a diameter ØDa = 245,00 mm with a speed of 400 r.p.m, the peripheral speed is 5,13 m/s and installation dimension l is to be adapted.

4.4 MEDIA

For the system to operate correctly, it is necessary to lubricate the seal at the sealing gaps. We recommend using oil lubrication rather than grease lubrication.

- For an oil lubrication that is permanent and does not require upkeep, the oil level must be between the 2/3 of the inside diameter of the seal and the middle of the axis. We recommend using SAE 80 and SAE 90 gearbox oils for a better operation.
- Grease lubrication requires particular attention. It is avoided due to the hydrodynamic conditions of lubrication that cannot be met, which could lead to significant wear and therefore a premature deterioration of the seal. If grease lubrication is used, the grease must not be inserted between the friction surfaces of the seal.

4.5 DETERMINING THE FRICTION POWER

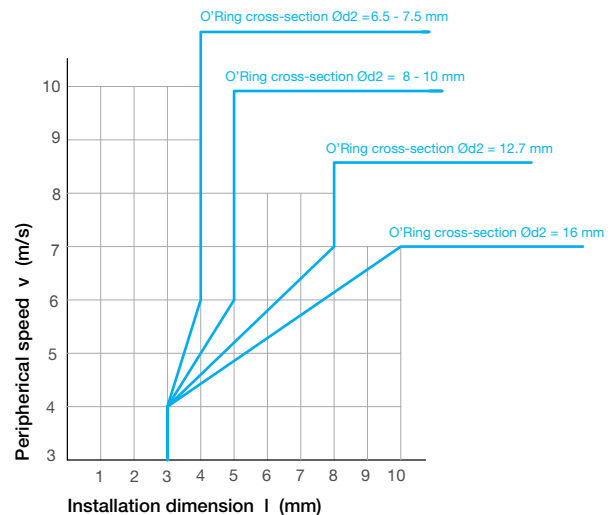


5. Design recommendations

5.1 DETERMINING THE INSTALLATION DIMENSION "I"

The installation dimension "I" affects the floating seal position, O'Ring compression and axial force. For standard applications using the BECA 830 profiles, a value of 3 mm (+/-0.5) must be taken into consideration for the installation dimension

We recommend increasing the assembly dimension to prevent a load on the seal surfaces that is too large, which leads to heating during significant peripheral speeds (5 to 10 m/sec).



5.2 SURFACE ROUGHNESS

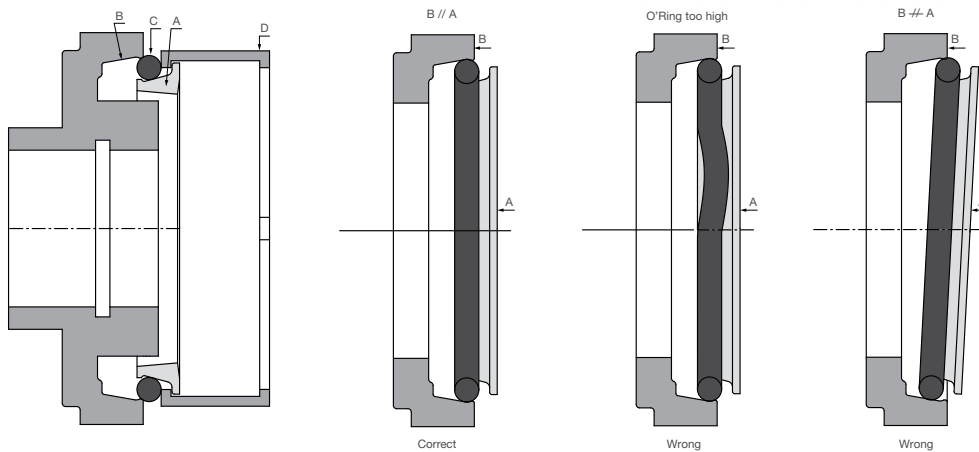
The housing must be free from burrs and scratches for optimal operation. The table below sets out the recommendations for surface roughness to be followed.

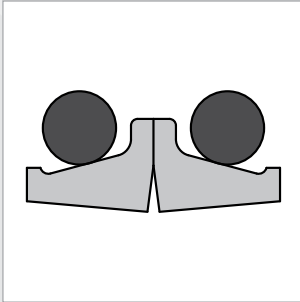
Roughness	Contact surface area
Ra	≤3.2 μm
Rz	≤10.0 μm
Rmax	≤16.0 μm

6. Assembly recommendations

Floating seals are hard cast iron or steel precision parts.

- The seal must not be removed from its original packaging until just before it is fitted, and it must protect the operational surfaces (A) from any soiling or deterioration.
- The housings of the seal (B) must be clean and there must be no burrs around the installation.
- The floating seals must be fitted using mounting tools (D). They are composed of two bearing shells fitted around a floating seal. In this way, the exertion required for installation is applied directly through the O'Ring (C).
- The floating seal must then be inserted into the housing, and all parts must be positioned symmetrically.
- The O'Rings, once put in place, must not be twisted or jammed.
- Before the final fitting, a thin film of oil must be applied to the two operational parts with a lint-free cloth (e.g.: a chamois)





FLOATING SEALS

BECA 830



DESCRIPTION

The BECA 830 profile is a standard floating seal composed of two metal parts made from 100Cr6 steel or cast iron and two rubber O'Rings.

ADVANTAGES

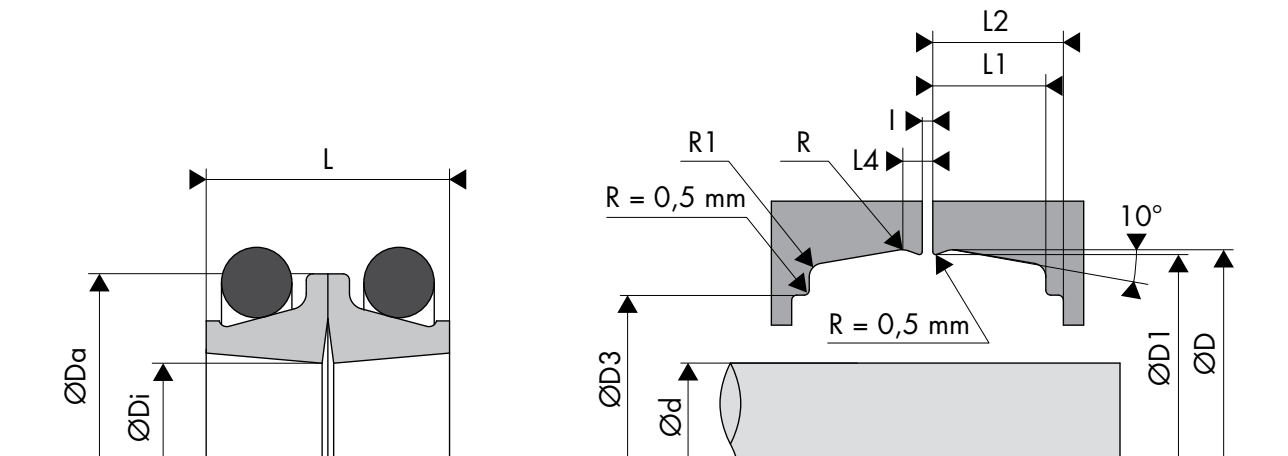
Wide temperature range, depending on the material chosen
 Longer lifespan
 Very little maintenance required
 Easy to fit

APPLICATIONS

Construction machinery
 Excavator rollers
 Rigid axles on tractors
 Gear boxes
 Steering axles

MATERIALS

Metal rings
 100Cr6 Steel
 15CrMoNi Cast iron
 Durinit Cast iron
O'Rings
 FKM
 HNBR
 NBR
 VMQ



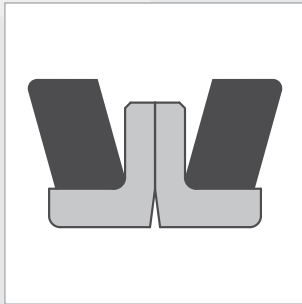
DIMENSIONS

Part number	I	Dimensions of the floating seal			Dimensions of the O'Ring		Dimensions of the housing							
		ØDi	ØDa	L	Ød1	Ød2	ØD*	ØD1*	ØD3	L1	L2	L4	R1	*tol +/-
830.003803	3.00	38.00	51.00	20.00	40.00	6.70	53.70	53.00	46.00	10.00	11.50	1.80	2.00	0.10
830.003804	3.00	38.00	51.00	20.00	41.00	6.00	53.70	53.00	46.00	9.00	11.00	1.80	2.00	0.10
830.003801		38.00	51.00	20.40	41.00	6.00								
830.004502	3.00	45.00	58.00	21.00	48.00	6.10	61.60	60.80	53.40	10.00	12.00	1.80	2.50	0.10
830.004601	3.00	46.00	59.00	20.00	47.50	6.50	62.50	61.80	56.00	8.50	10.50	1.80	2.00	0.10
830.004801		48.00	58.00	14.40	51.00	4.00								
830.004802	3.00	48.00	62.15	25.00	50.00	7.50	68.00	67.20	58.00	12.00	14.00	2.00	3.00	0.10
830.005505	3.00	55.50	70.00	22.00	58.00	7.50	73.80	73.10	65.50	10.00	11.50	2.40	5.00	0.10
830.005506	3.00	55.50	70.00	22.00	58.00	8.00	74.80	74.10	65.50	10.00	11.50	2.40	5.00	0.10
830.005601		56.00	70.00	26.00	60.00	7.60								

Part number	I	Dimensions of the floating seal			Dimensions of the O'Ring		Dimensions of the housing							
		ØDi	ØDa	L	Ød1	Ød2	ØD*	ØD1*	ØD3	L1	L2	L4	R1	*tol +/-
830.006002	3.00	60.20	73.00	20.00	60.00	6.50	76.50	75.80	69.00	8.50	10.50	1.80	2.00	0.10
830.006301	3.00	63.00	80.50	26.00	66.00	8.00	84.00	83.20	72.00	11.50	13.00	2.50	5.00	0.10
830.006305	3.00	63.50	82.40	32.00	66.00	9.50	87.00	86.00	74.50	14.50	17.50	2.80	5.00	0.10
830.006402	3.00	64.00	78.00	25.00	66.00	8.20	84.60	83.80	74.00	12.50	14.50	2.00	3.00	0.10
830.006401		64.00	78.00	25.00	67.00	8.00								
830.006701	3.00	67.00	80.00	20.00	68.50	6.50	83.40	82.70	76.80	8.50	10.50	1.80	2.00	0.10
830.006705	3.00	67.50	86.50	31.80	71.00	9.50	91.00	90.00	78.00	14.50	17.00	2.80	5.00	0.15
830.006801	3.00	68.00	89.00	24.00	75.00	8.00	92.50	91.50	83.00	11.00	13.50	2.80	5.00	0.10
830.007101	3.00	71.00	84.00	20.00	72.50	6.50	87.40	86.70	80.80	8.50	10.50	1.80	2.00	0.10
830.007102	3.00	71.50	91.00	29.00	75.00	9.00	95.20	94.20	81.00	12.60	15.00	2.80	5.00	0.15
830.007302	3.00	73.00	92.00	32.00	75.70	9.50	96.50	95.50	84.00	14.50	17.50	2.80	5.00	0.15
830.007705		77.50	87.60	13.60	78.00	4.30								
830.007706	1.00	77.50	88.50	15.00	78.00	4.30	90.70	90.20	85.50	7.00	8.00	1.50	1.50	0.10
830.007901	3.00	79.00	100.00	30.00	85.00	9.50	105.20	104.20	92.00	15.00	17.00	2.50	3.00	0.20
830.007905	3.00	79.50	92.50	20.00	81.00	6.50	96.00	95.30	88.00	8.50	10.50	1.80	2.00	0.10
830.008002	3.00	80.00	100.00	29.00	83.00	9.00	104.00	103.20	92.00	14.50	16.50	2.00	3.00	0.10
830.008001		80.00	100.00	30.00	85.00	9.30								
830.008101	3.00	81.00	98.00	28.00	82.00	8.00	102.30	101.30	91.00	12.50	14.50	2.80	5.00	0.10
830.008301	3.00	83.00	102.00	28.00	87.00	8.50	105.50	104.50	94.00	12.50	15.00	2.80	5.00	0.10
830.008705	1.00	87.50	77.50	14.00	78.00	4.30	90.70	90.20	85.50	7.00	8.00	1.50	1.50	0.10
830.008801	3.00	88.00	108.00	24.00	93.00	8.00	111.50	110.50	102.00	11.00	13.50	2.80	5.00	0.10
830.009002		90.00	105.00	26.00	93.00	6.30								
830.009001		90.00	109.00	32.00	93.00	9.50								
830.009007	3.00	90.50	104.50	26.00	93.00	6.30	107.40	106.60	100.40	11.80	14.20	2.90	2.80	0.10
830.009006	3.00	90.50	109.50	32.00	93.20	9.50	114.00	113.00	101.50	14.50	17.50	2.80	5.00	0.15
830.009502	3.00	95.00	111.00	24.00	99.00	7.70	115.60	114.80	108.00	11.00	12.50	1.80	2.00	0.10
830.009901	3.00	99.00	120.00	28.00	105.00	8.50	123.50	122.50	112.00	12.50	14.50	2.80	5.00	0.10
830.010001	3.00	100.00	119.00	32.00	102.80	9.50	123.50	122.50	111.00	14.50	17.50	2.80	5.00	0.15
830.010101		101.00	120.00	29.00	104.00	8.50								
830.010303	3.00	103.00	117.00	20.00	105.00	6.50	119.80	119.00	112.50	9.00	11.00	1.80	2.00	0.10
830.010401	3.00	104.00	125.00	28.00	110.00	8.50	128.50	127.50	117.00	12.50	14.00	2.80	5.00	0.10
830.010702	3.00	107.00	125.00	24.00	110.00	7.70	128.60	127.60	119.50	11.00	13.50	2.80	5.00	0.10
830.010701	3.00	107.00	125.00	24.00	110.00	8.50	130.40	129.40	119.50	11.00	13.50	2.80	5.00	0.10
830.011001	3.00	110.00	128.00	32.00	113.00	9.20	133.00	132.00	121.00	15.00	17.00	2.50	3.00	0.10
830.011101		111.00	128.00	22.00	116.00	7.00								
830.011401		114.00	137.00	31.00	121.00	9.20								
830.011405	3.00	114.50	129.00	21.00	117.00	7.00	134.10	133.10	126.00	9.20	10.00	2.30	3.00	0.10
830.011601		116.00	138.00	32.00	123.50	9.50								
830.011701	3.00	117.00	140.00	29.00	124.00	8.70	142.50	141.50	132.00	13.00	14.00	2.80	5.00	0.15
830.011805	3.00	118.50	139.50	28.00	124.00	8.50	143.00	142.00	131.50	12.50	15.00	2.80	5.00	0.10
830.012006	3.00	120.00	138.00	32.00	122.50	8.40	142.50	141.50	132.00	14.50	17.00	2.80	5.00	0.10
830.012005	3.00	120.00	138.00	32.00	124.30	9.00	143.00	142.00	132.00	14.50	17.00	2.80	5.00	0.15
830.012001	3.00	120.00	139.00	31.80	123.50	9.50	143.80	142.80	132.00	14.50	17.00	2.80	5.00	0.15
830.012501	3.00	125.00	144.00	31.80	128.50	9.50	148.50	147.50	136.00	14.50	17.00	2.80	5.00	0.15
830.012704	3.00	127.00	140.70	25.00	130.00	6.00	144.00	143.20	135.00	12.70	15.20	2.70	2.80	0.10
830.012703		127.00	141.00	25.40	130.00	6.30								
830.012701	3.00	127.00	141.00	29.00	125.00	8.30	148.00	147.00	138.00	13.00	15.50	2.80	5.00	0.10
830.012705	3.00	127.00	146.00	31.00	130.00	9.50	150.20	149.40	137.00	14.50	16.50	2.60	5.00	0.15
830.012702	3.00	127.00	146.00	32.00	130.00	9.50	150.50	149.50	138.00	14.50	17.50	2.80	5.00	0.15
830.013505	3.00	135.50	154.50	28.00	139.00	8.30	158.30	157.30	146.50	12.50	14.00	2.80	5.00	0.15
830.014305	4.00	143.00	156.60	25.00	143.00	6.25	159.70	158.90	152.00	11.50	13.50	2.50	3.00	0.10
830.014301	3.00	143.00	157.00	27.00	145.00	6.30	160.00	159.00	152.00	12.00	14.50	2.30	3.00	0.10
830.014302	3.00	143.00	160.00	27.00	145.70	8.30	164.00	163.00	154.00	12.00	14.50	2.80	5.00	0.10
830.014601	3.00	146.00	172.00	38.00	147.00	12.70	177.00	176.00	159.00	18.00	20.50	3.10	6.50	0.20
830.015002	3.00	150.00	167.00	28.00	153.80	8.50	171.00	170.00	160.00	13.00	15.50	2.80	5.00	0.10
830.015001	4.00	150.00	172.00	40.00	151.00	11.20	179.00	178.00	165.00	18.00	20.00	2.50	3.00	0.10
830.015201		152.00	171.50	32.00	153.00	9.50								
830.015301	3.00	153.00	171.50	28.00	157.00	8.30	176.30	175.30	164.50	12.50	14.50	2.80	5.00	0.10
830.015406	3.00	154.00	168.00	27.00	150.00	6.50	170.80	169.80	163.00	12.00	14.50	2.30	3.00	0.10
830.015403	3.00	154.00	168.00	27.00	150.00	6.50	171.00	170.00	163.00	12.00	14.50	2.30	3.00	0.10
830.015407	3.00	154.00	168.00	27.00	158.00	6.00	171.00	170.00	162.50	12.00	14.50	2.30	3.00	0.10

Part number	I	Dimensions of the floating seal			Dimensions of the O'Ring		Dimensions of the housing							
		ØDi	ØDa	L	Ød1	Ød2	ØD*	ØD1*	ØD3	L1	L2	L4	R1	*tol +/-
830.015408	3.00	154.00	169.00	22.00	158.10	7.00	174.50	173.50	166.00	9.50	11.00	2.30	3.00	0.10
830.015402	3.00	154.00	169.00	22.00	158.10	7.00	174.50	173.50	166.00	9.20	11.00	2.30	3.00	0.10
830.015401	3.00	154.00	170.00	21.00	158.10	7.00	175.10	174.10	167.00	9.20	11.00	2.30	3.00	0.10
830.015409	3.00	154.00	173.50	32.00	155.00	9.65	178.00	177.00	166.00	14.50	17.00	2.80	5.00	0.15
830.015501	3.00	155.00	168.00	27.00	158.00	6.00	170.80	169.80	163.00	12.00	14.50	2.30	3.00	0.10
830.016301		163.00	191.00	38.00	167.00	12.70								
830.016302	3.00	163.00	191.50	38.00	166.00	12.70	196.50	195.50	178.50	18.00	20.50	3.10	6.50	0.20
830.016401	3.00	164.00	189.00	30.00	170.00	9.50	193.50	192.50	179.00	14.50	17.00	2.80	5.00	0.15
830.016502	3.00	165.00	180.50	27.00	170.00	7.00	185.00	184.00	176.50	12.00	14.50	2.30	3.00	0.10
830.016501	3.00	165.00	181.00	27.00	170.00	7.00	185.00	184.00	176.50	12.00	14.50	2.30	3.00	0.10
830.017101	3.00	171.30	185.30	20.00	172.00	6.00	188.00	187.30	180.00	9.00	11.00	1.80	2.00	0.10
830.017601	3.00	176.00	195.00	28.00	182.00	8.30	199.80	198.80	188.00	12.50	14.50	2.80	5.00	0.10
830.017701	3.00	177.00	200.00	30.00	184.00	9.50	204.50	203.50	191.00	14.50	17.00	2.80	5.00	0.15
830.017801	3.00	178.00	199.00	32.00	184.00	9.50	203.60	202.60	190.00	14.50	17.00	2.80	5.00	0.15
830.017805	4.00	178.00	205.00	38.00	178.00	12.70	210.60	209.60	192.00	19.00	21.00	3.00	4.00	0.10
830.018201		182.00	210.00	38.00	184.00	12.70								
830.018203	3.00	182.00	210.50	38.00	185.00	12.70	215.50	214.50	197.50	18.00	20.50	3.10	6.50	0.20
830.019202	3.00	191.00	210.00	28.00	190.00	8.50	214.00	213.00	203.00	12.50	14.50	2.80	5.00	0.10
830.019203	3.00	192.00	209.00	30.00	190.00	9.50	213.50	212.50	200.00	14.50	17.00	2.80	5.00	0.15
830.019201		192.00	215.00	33.00	194.50	10.30								
830.019501	3.00	195.00	216.50	31.80	198.00	9.50	221.00	220.00	207.00	14.50	17.00	2.80	5.00	0.15
830.020001	3.00	200.00	228.50	38.00	205.50	13.00	233.50	232.50	215.50	18.00	20.50	3.10	6.50	0.20
830.020502	3.00	205.00	227.00	30.00	210.00	9.50	231.50	230.50	319.00	14.50	17.00	2.80	5.00	0.15
830.020503	3.00	205.00	227.00	30.00	210.00	9.50	231.50	230.50	219.00	14.50	17.00	2.80	5.00	0.15
830.020504	3.00	205.00	227.00	30.00	210.00	10.00	231.50	230.50	219.00	14.50	17.00	2.80	5.00	0.15
830.020805	3.00	208.70	222.80	26.00	208.00	6.20	225.40	224.40	217.00	11.50	13.50	2.20	2.50	0.10
830.020501		205.00	227.00	30.50										
830.021601	3.00	216.00	237.00	30.00	218.00	9.50	241.50	240.50	229.00	14.50	17.00	2.80	5.00	0.15
830.022001	3.00	220.00	239.50	31.80	224.00	9.50	244.00	243.00	232.00	14.50	16.50	2.80	5.00	0.15
830.022307	3.00	223.00	251.50	38.00	226.00	12.70	256.50	255.50	238.50	18.00	20.50	3.10	6.50	0.20
830.022305		223.50	251.50	38.00	225.00	12.70								
830.022501		225.00	252.00	38.00	228.00	12.00								
830.023105		231.60	259.60	38.00	234.00	12.70								
830.023801	3.00	238.00	261.00	31.80	245.00	9.50	265.50	264.50	254.00	14.50	17.00	2.80	5.00	0.15
830.024001	3.00	240.00	262.80	38.00	243.00	13.00	273.50	272.50	255.50	18.00	20.50	3.10	6.50	0.20
830.024201	3.00	242.00	262.80	40.00	243.00	13.00	273.50	272.50	255.50	18.00	20.50	3.10	6.50	0.20
830.025001	3.00	250.00	270.00	30.00	250.00	9.50	274.70	273.70	262.00	14.00	15.50	2.80	5.00	0.20
830.025002		250.00	276.00	44.00	255.00	12.70								
830.025201	3.00	252.00	280.50	38.00	255.00	12.70	285.50	284.50	267.50	18.00	20.50	3.10	6.50	0.20
830.025401		254.00	280.00	36.00	260.00	12.00								
830.026501	3.00	265.00	293.00	38.00	268.00	12.70	298.00	297.00	280.00	18.00	20.50	3.10	6.50	0.20
830.027501	3.00	275.00	303.00	38.00	278.00	12.70	308.00	307.00	290.00	18.00	20.50	3.10	6.50	0.20
830.030002	3.00	300.00	324.65	38.00	305.00	12.70	335.50	334.50	318.00	17.50	20.50	3.10	6.50	0.20
830.030001	3.00	300.00	325.00	38.00	305.00	12.70	336.50	335.50	318.00	17.50	20.50	3.10	6.50	0.20
830.030003	4.00	300.00	328.00	38.00	300.00	12.70	333.00	332.00	315.00	19.50	22.00	3.00	4.00	0.20
830.031801	3.00	318.00	341.00	38.00	315.00	12.70	351.50	350.50	334.00	17.50	20.50	3.10	6.50	0.20
830.031802	3.00	318.00	346.00	38.00	315.00	12.70	351.50	350.50	334.00	18.00	20.50	3.10	6.50	0.20
830.031803	3.00	318.00	346.00	40.00	320.00	12.70	351.60	350.70	333.70	5.70	18.40	3.70	6.30	0.13
830.034003		340.00	370.00	40.00	345.00	12.00								
830.035001	3.00	350.00	375.00	38.00	355.00	12.70	385.50	384.50	368.00	17.50	20.50	3.10	6.50	0.20
830.035501	3.00	355.00	375.00	38.00	355.00	12.70	385.50	384.50	368.00	17.50	20.50	3.10	6.50	0.20
830.036601		366.00	394.00	38.00	360.00	12.70								
830.036605	3.00	366.00	394.40	38.00	359.50	12.70	399.50	398.60	381.00	17.50	20.50	3.00	6.50	0.20
830.036606	6.00	366.00	394.40	40.00	359.50	12.70	399.50	398.60	381.00	17.50	20.50	3.00	6.50	0.20
830.037001	3.00	370.00	398.00	38.00	370.00	12.70	403.50	402.60	385.00	17.50	20.50	3.00	6.50	0.20
830.038802	3.00	388.00	415.00	38.00	385.00	12.70	420.30	419.40	402.00	17.50	20.50	3.00	6.50	0.25
830.038801	3.00	388.00	416.20	38.00	385.00	12.70	421.60	420.70	402.00	17.50	20.50	3.00	6.50	0.25
830.043002	3.00	430.00	457.00	38.00	420.00	12.70	462.30	461.30	444.00	17.50	20.50	3.00	6.50	0.25
830.043001	3.00	430.00	459.20	38.00	420.00	12.70	464.50	463.50	444.00	17.50	20.50	3.00	6.50	0.25
830.045001	3.00	450.00	480.00	50.00	454.00	16.00	492.20	490.20	470.00	23.50	25.50	4.00	6.00	0.40
830.046502	3.00	465.00	495.00	43.60	460.00	12.70	500.70	498.50	482.90	21.20	22.90	4.70	7.00	0.25

Part number	I	Dimensions of the floating seal			Dimensions of the O'Ring		Dimensions of the housing							
		ØDi	ØDa	L	Ød1	Ød2	ØD*	ØD1*	ØD3	L1	L2	L4	R1	*tol +/-
830.046501	3.00	465.00	497.20	43.60	460.00	12.70	503.10	500.90	482.90	21.20	23.00	4.70	7.00	0.25
830.047001	3.00	470.00	500.00	50.00	474.00	16.00	512.20	510.20	490.00	23.50	25.50	4.00	6.00	0.40
830.050505	6.00	505.00	533.40	43.60	493.00	12.70	538.40	537.40	521.00	19.70	21.70	4.00	6.50	0.25
830.050506	3.00	505.00	535.80	43.60	493.00	12.70	541.80	539.70	521.00	19.70	21.70	4.20	6.50	0.25
830.053001	3.00	530.00	560.00	50.00	530.00	16.00	572.20	570.20	545.00	23.50	25.50	4.00	6.00	0.40
830.053801	6.00	538.00	566.80	43.60	535.00	12.70	572.20	571.20	554.00	19.70	21.70	4.00	6.50	0.25
830.055501		555.00	590.00	42.00	550.00	13.50								
830.055901	3.00	559.00	590.00	50.00	560.00	16.00	602.20	600.20	575.00	23.50	25.50	4.00	6.00	0.40
830.057601	6.00	576.00	608.00	43.60	582.00	12.70	613.00	612.00	596.00	19.70	21.70	4.00	6.50	0.25
830.058105	6.00	581.50	608.00	43.60	582.00	12.70	613.00	612.00	596.00	19.70	21.70	4.00	6.50	0.25
830.059101	5.25	591.00	623.00	50.00	595.00	16.00	635.20	633.20	613.00	23.50	25.50	4.00	6.00	0.40
830.059601	5.25	596.00	628.00	50.00	595.00	16.00	640.20	638.20	618.00	23.50	25.50	4.00	6.00	0.40
830.066001	13.00	660.00	695.00	53.00	660.00	16.00	704.00	702.00	680.00	20.00	22.50	4.00	6.00	0.40
830.066701	9.00	667.00	700.00	43.60	660.00	12.70	705.60	704.30	687.00	21.30	24.00	3.70	6.30	0.25
830.066702		667.00	700.00	45.00	660.00	12.70								
830.066703	6.00	667.00	700.00	50.00	660.00	12.70	705.60	704.70	687.70	21.30	26.20	3.70	6.30	0.13
830.071801	3.00	718.00	750.00	50.00	722.00	16.00	762.20	760.20	740.00	23.50	25.50	4.00	6.00	0.40
830.073001		730.00	768.00	50.00	740.00	16.00								
830.077001	17.00	770.00	826.00	80.00	780.00	20.50	831.90	830.90	800.00	34.50	39.50	4.40	10.00	0.40
830.078001	17.00	780.00	836.00	80.00	790.00	20.50	841.90	840.90	810.00	34.50	39.50	4.40	10.00	0.40
830.081701	12.00	817.00	865.00	46.60	830.00	12.70	870.60	869.70	852.70	21.30	26.20	3.80	6.30	0.13
830.082501	11.00	825.00	865.30	48.00	819.00	12.70	870.56	869.67	852.68	18.40	23.30	3.70	6.30	0.13
830.083001	17.00	830.00	886.00	80.00	840.00	20.50	891.90	890.90	860.00	34.50	39.50	4.50	10.00	0.40
830.083201	6.00	832.00	865.00	43.60	830.00	12.70	870.60	869.70	852.70	21.30	26.20	3.80	6.30	0.13
830.083202	12.00	832.00	865.00	46.60	830.00	12.70	870.60	869.70	852.70	21.30	26.20	3.80	6.30	0.13
830.090201	16.00	902.00	941.00	60.00	897.00	16.25	946.30	945.20	922.40	23.80	25.20	4.65	8.00	0.40
830.092001	17.00	920.00	976.00	80.00	930.00	20.50	981.90	980.90	950.00	34.50	39.50	4.40	10.00	0.40
830.103001	17.00	1030.00	1085.00	80.00	1020.00	20.50	1090.90	1089.90	1058.00	34.50	39.50	4.40	10.00	0.40
830.104401	17.00	1044.00	1105.00	80.00	1050.00	20.50	1110.90	1109.90	1078.00	34.50	39.50	4.40	10.00	0.40
830.117501	17.00	1175.00	1236.00	80.00	1170.00	20.50	1241.90	1240.40	1209.00	34.50	39.50	4.40	10.00	0.40
830.137201	17.00	1372.00	1425.00	80.00	1350.00	20.50	1430.90	1429.90	1398.00	34.50	39.50	4.40	10.00	0.40



FLOATING SEALS

BECA 831



DESCRIPTION

The BECA 831 profile is a standard floating seal composed of two metal parts made from 100Cr6 steel or cast iron and two rubber Belleville seals.

ADVANTAGES

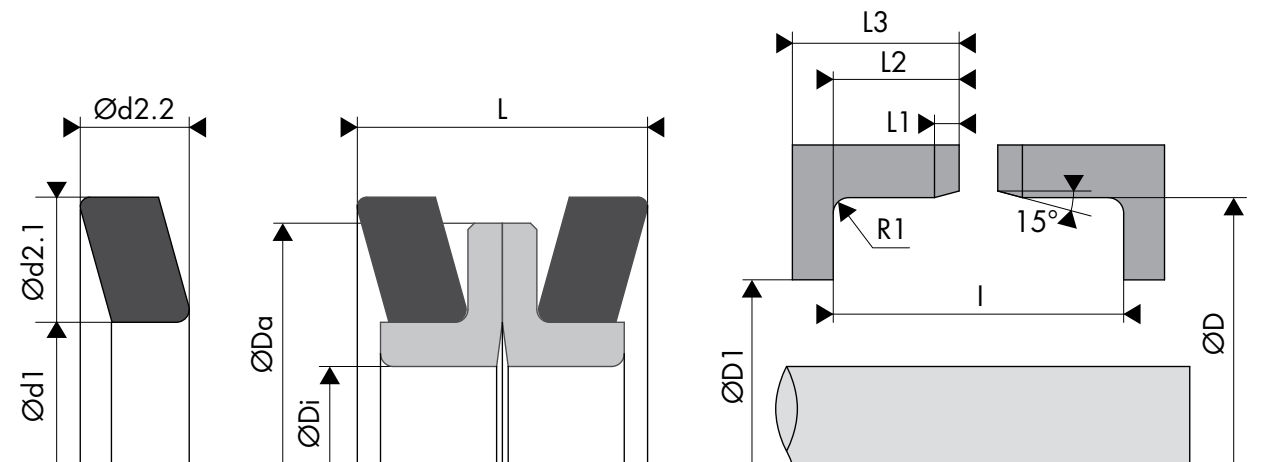
Wide temperature range, depending on the material chosen
 Longer lifespan
 Compact design
 Straightforward development of the cylindrical housing, which requires a more precise fitting

APPLICATIONS

Construction machinery
 Screw conveyors for abrasive materials
 Harvesting machinery

MATERIALS

Metal rings
 100Cr6 Steel
 115CrMoNi Cast iron
 Durinit Cast iron
Belleville washers
 FKM
 HNBR
 NBR
 VMQ



DIMENSIONS

Part number	Floating seal dimensions			Dimensions of the Belleville seal	
	ØDi	ØDa	L	Ød1	Ød2.1
831.004801	48.50	62.50	20.00	52.00	11.20
831.005601	56.00	76.00	21.00	60.50	10.50
831.006001	60.00	80.00	24.00	65.50	9.40
831.007301	73.50	93.00	20.00	80.00	10.20
831.007601	76.00	90.00	17.00	80.50	6.25
831.008801	88.00	104.00	18.00	92.00	9.50
831.009401	94.00	120.00	25.00	99.50	12.50
831.011501	115.00	141.00	28.00	120.50	14.70
831.013201	132.00	158.00	31.00	138.00	15.40
831.014201	142.50	161.00	24.00	147.00	11.70
831.014801	148.00	172.00	29.00	154.50	13.50
831.017701	177.00	197.00	22.00	179.00	11.00
831.020101	201.00	238.00	36.00	210.00	20.70
831.021301	213.50	238.00	27.40	219.00	16.00
831.023501	235.70	265.00	30.00	244.50	12.75
831.023901	239.00	264.00	34.00	244.50	15.80
831.028301	283.00	319.00	34.00	290.00	17.70
831.031901	319.00	353.00	36.20	326.00	17.50
831.035401	354.00	392.00	38.00	362.00	18.00

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FOR YOUR SEALING NEEDS



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