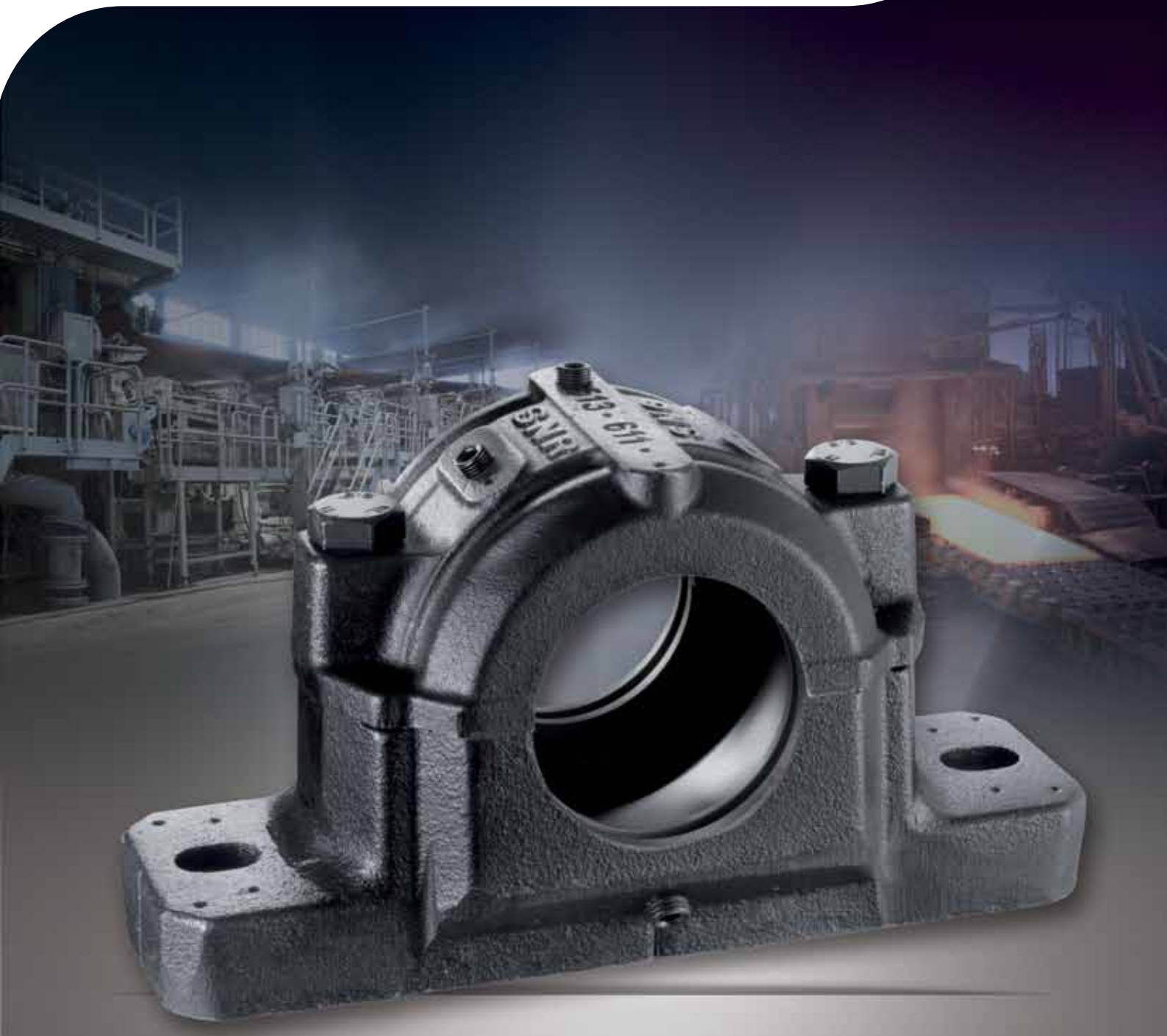

SNC
The Pillow Block Range

www.ntn-snr.com

With You

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Content

Part 1
SNC. The fundamentals

NTN-SNR

The expertise of a manufacturer, the scope of a leader

The European Arm of NTN Corporation, the world's 3rd largest bearings group, NTN-SNR BEARINGS specialises in the design, development and manufacture of high-performance rotation and guidance systems. A major player and a recognised supplier to some of the leading names in industry, the company takes pride in following through with its initial commitment: to put the best technology to the service of your applications.

NTN-SNR offers products of a high technical quality, both for standard and for special applications. With one of the largest product ranges on the market, NTN-SNR satisfies all requirements. Innovation figures prominently in our development of new solutions, in the broadening of the functions of bearings....
NTN-SNR is recognized as the partner and developer of tomorrow. NTN-SNR is ready to take up all the technical challenges of the market.

A design developed to meet your requirements

With an ubiquitous presence in the industrial, automotive and aerospace markets, NTN-SNR is not content to merely offer the most comprehensive range of standard and specialist solutions available on the market for Original Equipment and spares. Driven by a well-honed sense of innovation and a constant concern for quality, we strive daily to enhance the performance of our bearings and anticipate your future requirements.
More compact, lighter, more economical, more reliable, more efficient and more eco-friendly, our products contain all the ingenuity that went into their design and all the care that guided their manufacturing. Taking account of the most common to the most specific of your requirements and to satisfy your economic and ecological objectives.

A worldwide presence, and close at hand

With 100 or so sites around the world, all subject to the same degrees of excellence, we have teams on hand everywhere, ready to come to your aid, guaranteeing consistent quality of our products and services. Familiar with your business and trained to deal with your priorities, they concentrate on developing products and solutions that take account of all your constraints and requirements. Working at your side, our teams use their talents in the service of your particular objectives, and are committed to ensuring your satisfaction.

Innovation as a founding value

- With over 5% of our revenue invested annually in Research & Development...
- an R&D division with a headcount of over 400, all of whom every day, are exploring and investigating every domain
- a technical centre with a wealth of laboratories
- a mechatronics development centre
- a test centre with over 200 test benches

… innovation and progress are no simple declarations of intent, but priorities applied daily in our workshops in order to provide a design that will meet your future needs.

The environment as a priority issue

Protecting the environment is a key challenge for our company, applicable at every stage of our activities, a fundamental principle understood by every one of our employees.

On the product side, our commitment is to help reduce your energy bill and your carbon footprint:
- through specific work carried out on eco-bearings, requiring even less energy consumption. The objective: to reduce friction torque in order to rotate more easily, thus reducing CO2 emissions and energy consumption.
- through developing solutions for clients who are strongly committed to renewable energies such as wind and solar power.

On the production side, we are continually improving our industrial processes:
- Developing production sites in order to reduce their consumption of energy, water and chemical products.
- Pursuing a policy of waste and atmospheric pollutant emissions management.

…In all our plants, each one ISO 14001-certified, nothing is left to chance.

The NTN-SNC pillow block housing conception

Variable, efficient, user friendly! That's the basic concept behind our SNC series.

Basic design

Our two-part bearing housings are made up of an upper and a lower section. This greatly simplifies the mounting and maintenance of the units, as the bearing and sealing elements can be mounted on the shaft first and then simply inserted into the pre-positioned lower section of the housing.

These units are compatible with ISO standards 02, 03, 22, 23 and 32 sized self-aligning bearings or roller bearings. The high performance NTN-SNR ULTAGE self-aligning roller bearings offer huge additional benefits in terms of service life and running performance. Our application engineers will be happy to advise you on the design and dimensioning of your bearing locations.

A wide variety of different sealing systems ensures that optimum solutions are available for all kinds of applications, from the less stringent requirements for a bearing location under clean ambient conditions through to usage under extremely adverse conditions.
Unique design selling points, such as the circular ribbing on the housing allow fault-free operation even at high temperatures and with heavy loads. The optimum vibration behaviour of our FEM-optimised housings extends their service life considerably. Increased housing rigidity and improved heat dissipation are further advantages of the SNC series.
Other design details are described in more detail later in this catalogue.

Complete systems

NTN-SNR enables its customers to order application-specific complete systems. These include bearing units that are supplied fully assembled with the shaft and pre-lubricated for direct installation.
This results in economic benefits such as:

- Reduction of logistics costs: One supplier - one responsibility
- Reduction of commissioning costs due to avoidance of mounting errors
- Reduction of manufacturing costs due to elimination of the need to mount individual components separately
- Reduction of inventory costs

Modular principle

The versatility and the number of variations in the SNC housing series ensure that a wide range of modules are available, with even the standard options offering enormous variety. This means that complex and expensive special designs can often be avoided. The modular principle, with its different dimensions, sealing elements and rolling bearing variations, provides a wide range of options that offers a technically and economically viable solution for most applications.

Development principles

The development process for our bearing housings always follows an established and proven principle: design, optimization and determination of load limits.
True to these principles, all SNC housings are designed using our 3D CAD software. The shape and design of the individual housing cross-sections are calculated and optimised by our specialist engineers using the finite element method (FEM). At NTN-SNR, theory and practice are aligned in sophisticated endurance tests on the test bench and in practical load tests.

Structural details

Drawing on several decades' experience in the development of housings, NTN-SNR's engineers have integrated numerous practical details into the design of SNC and SNCD bearings. These features not only help improve service life and safe operation but also facilitate fitting and dismantling.
For more information on SNCD bearings, please see pages 30-31.

Strength properties and heat dissipation:

The circular ribbing on the housing body gives the SNC housing excellent form stability and rigidity.
Furthermore, this structural feature helps to optimize the vibration behavior and heat dissipation of the units. The X-shaped support surface and the cross piece in the housing foot strengthen the bearing seat substructure and thus support the bearing journal at a critical point.

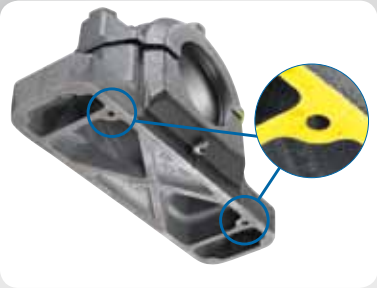
Heat dissipation:

The support surface in the foot of the SNC housing insures extremely efficient dissipation of operating heat.

Structural details

Connection bolts

On SNC pillow block housings, bolts with a larger diameter than on comparable housings are used to connect the upper and lower sections of the housing. This enables higher radial loads to act on the housing cap.



Mounting holes

The holes incorporated into the underside of the housing foot simplify exact alignment of the units in series production. Dowel pins that are preinstalled in the mounting surface as set out in the table (see page 29) indicate the exact position. If modification of the housing is necessary, the mounting holes can also be used for re-machining purposes.

Grease drain hole

All SNC housings are factory-fitted with a grease drain hole. In addition to the default position, other locations can also be selected for the grease drain hole.
Positions are marked by centre punching. The drain hole is located in the foot area opposite the lubricating fitting. It ensures that excess grease from inside the housing can escape. (On delivery, the drain holes are plugged with screw plugs).

Drain edge

The chamfered edge prevents the penetration of moisture at the interface between the upper and lower section.

Alignment markings

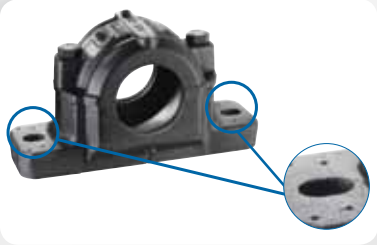
For quick and easy alignment on the mounting surface, SNC housings have positioning marks. These are located under each shaft outlet hole and on the side of the housing foot.

Dismounting edge

Simplifies dismounting for maintenance work on the bearing units. A lever can be used to easily separate the upper and lower sections of the housing from one another at these points.

Lubrication fitting

All bearings come with two threaded holes for mounting lubricators. Other positions are possible for the lubricators. These positions are marked on the cast iron surface.
From size 524 upwards, the threaded holes come with a screw plug. For smaller sizes, plastic blanking plugs are used. A cone-head lubricator and flat-head lubricator along with optional blanking screws are supplied with all housings.

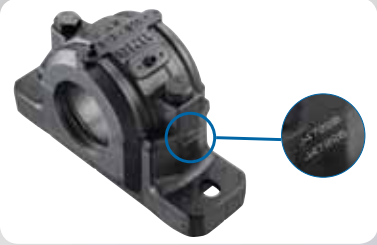


Markings for mounting with four fastening bolts

For mounting situations in which the centrally positioned main fastening holes cannot be used, there are four markings in the housing foot. These can be used as alternative fastening holes.

Markings for additional dowel pins

Enable the bearing units to be fixed onto the mounting surface with additional dowel pins. These pins are useful if very high loads occur parallel to the support surface. (Please refer to page 29)



Upper and lower section marking

The code numbers imprinted on the side of the housing body are used to correctly assign the upper and lower section. When mounting several housings, the upper and lower sections must never be exchanged as they are matched during production.

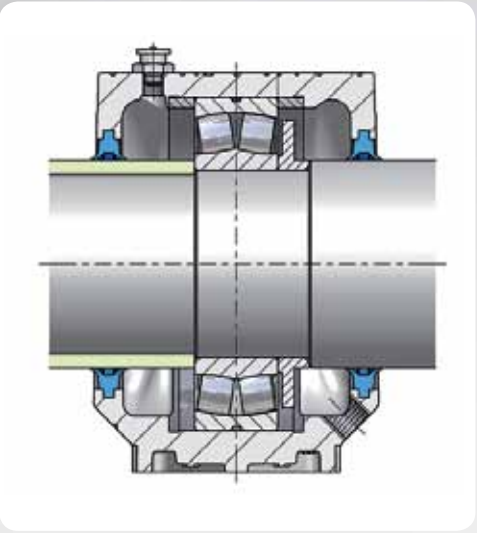
Connection options

Several marking points are cast into the upper sections of housings. If necessary, these can be used for connecting holes for measuring sensors, e.g. vibration pickups or temperature sensors.

Bearing arrangement construction

SNC bearing housings are designed to hold self-aligning roller or ball bearings. The choice of bearing type and the design of the bearing arrangement depend primarily on the type of application.

Bearings with cylindrical bore



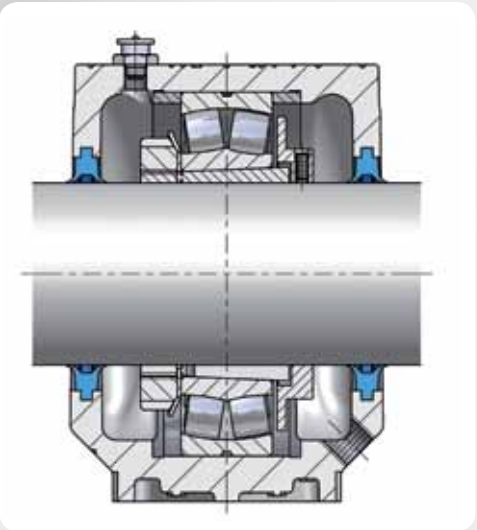
Rolling bearings with a cylindrical bore are mounted directly on the shaft. The selected shaft tolerance should depend on the application and the bearings used. The inner ring of the rolling bearing must be supported against a shaft shoulder. The bearing must always be fitted securely onto the shaft. For easy, safe and quick mounting of the bearings, we recommend the use of an NTN-SNR induction heating device. Information about our range Experts & Tools:

www.ntn-snr.com/services

Bearings with a cylindrical bore are particularly well suited for:

- Applications in which large axial loads have to be absorbed
- Series mounting
- Bearing arrangements that are exposed to significant shock loads.

Bearings with tapered bore



Rolling bearings with a tapered bore are mounted on the shaft using an adapter sleeve. The tolerance range of the shaft can be greater than for bearings with a cylindrical bore. Basically, any drawn shafts produced in the tolerance field h9 can be used. The inner ring of the bearing is fixed on the sleeve by axial preload. Adherence to the specified radial bearing clearance after mounting must be ensured. The relevant values can be found in the table on page 26.

Bearings with a tapered bore are particularly well suited for:

- Bearing locations in which the exact position of the bearing is not known in advance;
- Applications that have to proceed without machining of the shafts;
- Constructions that do not allow any weakening of the shafts;
- Bearing arrangements that are adapted to particular operating conditions by adjusting the bearing clearance.

NTN-SNR bearings in ULTAGE quality

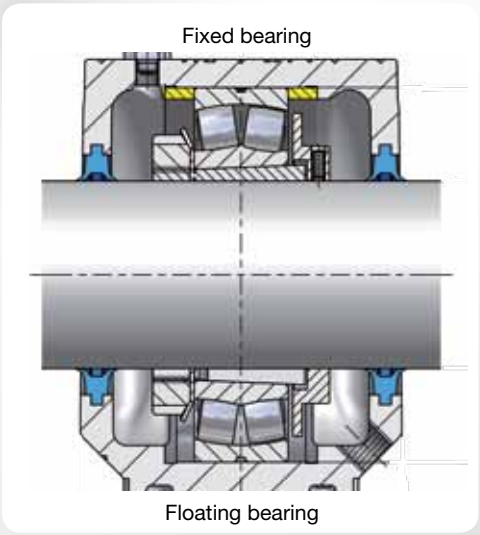
ULTAGE®

NTN-SNR bearings in ULTAGE quality

NTN-SNR ULTAGE self-aligning roller bearings are designed for applications in which high loads, severe imbalance, contamination, shocks and vibrations can occur. To improve on the excellent performance and reliability of the series, the NTN-SNR ULTAGE self-aligning roller bearings have been optimised in terms of their load ratings and service life.

For more information on the quality of NTN-SNR ULTAGE spherical roller bearings, please see page 76 or ask for our ULTAGE catalogue.

Fixed / floating bearing version



SNC bearing housings can be used for both fixed and floating bearing arrangements. The locating rings available from NTN-SNR enable the bearings used to be fixed in place axially. The width of the locating rings is adapted to the size of the relevant bearing. The exact designation can be found in the dimension table. To secure the bearings in the housing, two locating rings per housing are necessary.

More information about the construction and design of bearing arrangements can be found in our main NTN-SNR rolling bearing catalogue.

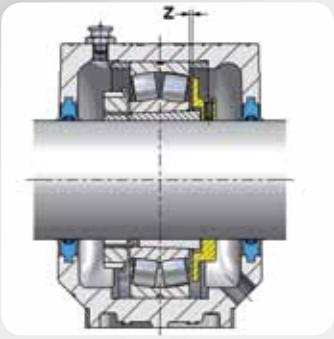
Regulation discs RDC

The single-part grey cast iron regulation discs can be fitted in every SNC housing as an option. They are primarily required to convey excess quantities of grease out of the interior of the housing (grease drain hole must be open). The gap between the regulation disc, the bearing and the housing results in a regulating conveying effect for the lubricant during operation. The excess grease is discharged from the bearing. During installation and after each relubrication interval, this has the advantage that the steady state temperature is reached more quickly. Practical experience has also shown that the operating temperature of the bearing arrangements with regulation discs is less than those without regulation of the grease quantity, particularly at very high speeds.

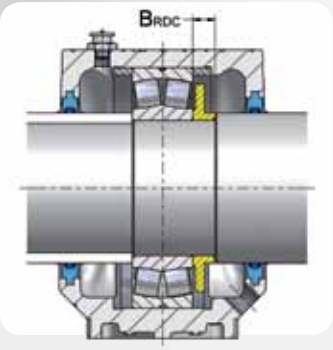
Accumulations of grease can lead to a rapid increase in the bearing temperature. This would result in hot running of the rolling bearings and premature failure. In units with an adapter sleeve, they are attached to the shaft using two set screws. In bearing units with cylindrical bearings, the regulation discs are secured axially between the shaft shoulder and the bearing. The tightening torques for the fastening bolts are shown in the table below. To ensure that the regulation disc functions correctly, the mounting instructions must be followed as exactly as possible. The regulation disc should be positioned as specified in the table below.

Mounting

Regulation discs must be mounted on the side of the grease drain hole. When using rolling bearings with adapter sleeves, it must be ensured that the groove nuts are positioned on the lubricating fitting side.



Use of regulation disc in bearing arrangement with adapter sleeve mounting.



Use of regulation disc in bearing arrangement with cylindrical bore.

Abutment dimensions			Distance bearing outer ring – regulation disc Z
Housing	Size		[mm]
SNC	505-509	605-607	2
SNC	510-518	608-615	3
SNC	519-532	616-620	4

Tightening torques and widths across flats				
Regulation disc	Size		Width across flats [mm]	Max. tightening torque [Nm]
RDC	505-512	605-612	2,5	3,5
RDC	513-519	613-618	3	5,5
RDC	520-532	619-620	4	11,5

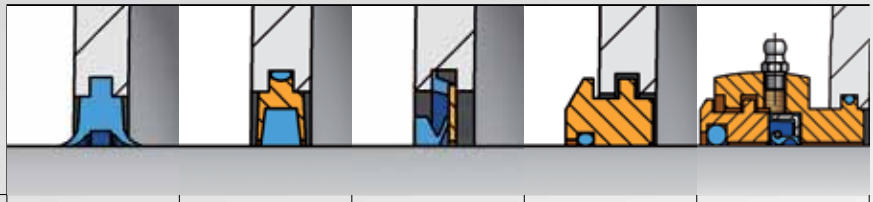
Abutment dimensions for B_{RDC} regulation disc in bearing arrangement with cylindrical bore

200 Series	
Size	**[mm]**
RDC 205	7,5
RDC 206	8,5
RDC 207	9
RDC 208	8
RDC 209	12
RDC 210	8
RDC 211	9
RDC 212	11
RDC 213	12,5
RDC 214	18
RDC 215	11
RDC 216	11
RDC 217	14
RDC 218	15
RDC 219	18
RDC 220	18
RDC 222	22
RDC 224	24
RDC 226	24
RDC 228	22
RDC 230	35
RDC 232	40

300 Series	
Size	**[mm]**
RDC 305	9
RDC 306	9
RDC 307	9
RDC 308	9
RDC 309	10
RDC 310	10
RDC 311	10
RDC 312	10
RDC 313	12
RDC 314	15
RDC 315	15
RDC 316	20
RDC 317	18
RDC 318	20
RDC 319	24
RDC 320	24

Seal selection

There are a wide variety of sealing options for the housing due to the large number of potential applications.The correct choice of sealing system depends on several factors. Below, you will find important information about all of the sealing options that are included in the standard range of SNC bearing housings.
All SNC units are designed for both through shafts and for shaft end bearing arrangements. A cover (SC...EC) is available for these versions. This is inserted in the groove between the upper and lower sections in place of the second seal. To provide maximum flexibility when it comes to selecting, SNC seals are packaged as a set. One seal set is required for each side of the housing.



Structural properties		SC..DS Double lip seal	SC..FS Felt strip seal	SC..SV V-ring seal	SC..LA Labyrinth seal	SC..TA Taconite seal
Operating temperature	°C	-40… +100	-40… +100	-40… +100	-40… +200	-40… +100
Circumferential speed	m/s	<8	<15	<7[3]	<15	<8[4]
Possible misalignment	Degrees	0,5…1	<0,5	1…1,5	<0,3	<0,5
Relubrication						
Low friction			[1]			[1]
Suitable for floating bearings						
Vertical installation				[2]		
Sealing behavior for:						
Splash water / moisture						
Ultra-fine particles						
Fine particles						
Large particles						
Sharp-edge particles						
UV resistance						

Ideally suited

Suitable

Limited suitability

Unsuitable

[1] During running-in phase up to approx. 5m/s
[2] If V-ring is fitted inside on underside
[3] Without additional supporting ring (axially secured: 7-12 m/s; axially and radially secured: >12 m/s)
[4] Shaft requirements, see page 18

Sealing systems

There are a wide variety of sealing options for the housing due to the large number of potential applications. The correct choice of sealing system depends on several factors. Below, you will find important information about all of the sealing options that are included in the standard range of SNC bearing housings.

The sealing selection table on Page 14 provides a quick overview of the technical properties and possible applications of SNC seals.

Double lip seals SC..DS

NTN-SNR's double lip seals have two parts, which makes them particularly easy to fit. For the 500/600 range, they are made in TPU (thermoplastic polyurethane). For the 200/300 range, the material used is NBR (nitrile-butadiene rubber). The circumferential speeds can be up to 8 m/s. For shaft diameters greater than 100mm, max. misalignment of 0.5°, for bearing units with shafts smaller than 100 mm max. 1°. The shaft diameter should lie within the tolerance range h9. We recommend ground shafts with a roughness of less than R_a 3.2 µm.
The permissible temperature range for this seal is between -40 °C and +100 °C.

Note that one seal must be ordered for each side of the housing. The delivery includes two half seals.

Felt strip seal SC..FS

The felt strip seals are a reliable standard seal for SNC bearing housings. They are easy to fit and after a running-in phase can be used for circumferential speeds of up to 15 m/s (running-in phase up to approx. 5 m/s). Felt strip seals are suitable for grease lubrication and temperatures of between -40 °C and +100 °C. We can also offer you a choice of special materials for the use of higher temperatures. Misalignment may not be greater than approx. 0.5°. A roughness of R_a 3.2 µm must not be exceeded in the contact area. The felt strips are soaked in oil and fitted in the retainers at the factory and can be used immediately.

Note that one seal must be ordered for each side of the housing. The delivery includes the two felt strips, the two-part aluminum retainer and 2 round cords.

V-ring seal – optional

In addition to a felt strip seal (SC...FS), SNC bearing housing units can be fitted with optional V-rings made of NBR (butadiene acrylonitrile rubber). With this combination, the sealing lip has an axial contact with the retainer, ensuring an even better sealing effect (for permissible circumferential speed, see SC...SV).

Note that one seal must be ordered for each side of the housing. The delivery includes an A version of the V-ring.

V-ring seal with contact washer SC..SV

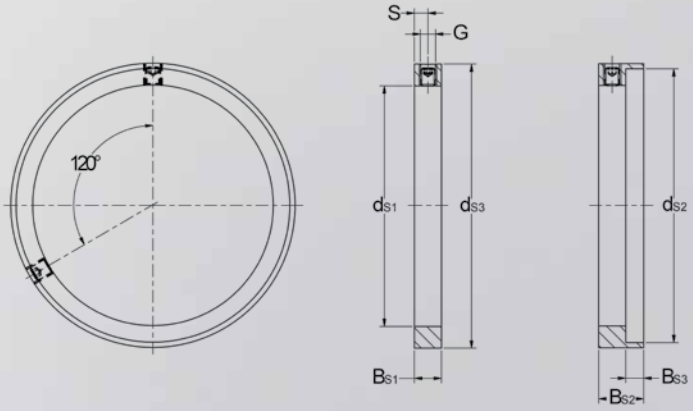
The SC...SV seal consists of a contact washer made of corrosion-protected sheet steel with a vulcanized rubber lip and the V-ring made of NBR (butadiene acrylonitrile rubber). The contact washer is fixed in the sealing groove between the upper and lower section. The sealing lip of the V-ring has an axial contact with the contact washer. For shafts with a diameter of up to 50 mm, misalignment of up to approx. 1.5° is possible. Larger shaft diameters may not exceed a misalignment of 1°.

For higher circumferential speeds, V-rings can also be secured axially and/or radially. For this purpose, NTN-SNR recommends the use of supporting rings that can be fitted directly behind the V-rings. The following table shows the corresponding dimensions of the supporting rings. For V-ring seals that are not axially secured, circumferential speeds of up to 7 m/s are permitted. Axially secured: 12 m/s. Axially and radially secured: More than 12 m/s. The operating temperatures for these seal versions are between -40°C and +100°C.

Note that one seal must be ordered for each side of the housing. The delivery includes one contact washer and the corresponding V-ring.

Recommended dimension for V-ring seal retaining rings

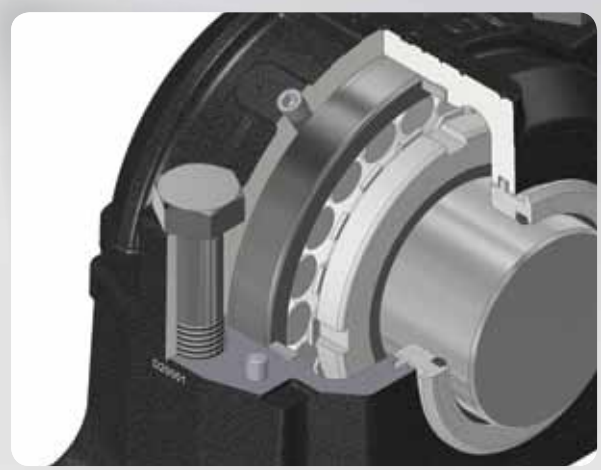
Shaft diameter	Dimensions [mm]								Set screw DIN 913
d, d_1	d_{S1}	d_{S2}	B_{S1}	B_{S2}	B_{S3}	d_{S3}	s	G	
20	20	27,2	7	10,5	3,5	30	3,5	M4	4x4,5
25	25	32,1	7	10,5	3,5	35	3,5	M4	4x4,5
30	30	37,2	7	10,5	3,5	40	3,5	M4	4x4,5
35	35	42,2	7	10,5	3,5	45	3,5	M4	4x4,5
40	40	49,1	7	12,0	4,5	53	3,5	M4	4x5
45	45	54,0	7	12,0	4,5	58	3,5	M4	4x5
50	50	59,1	7	12,0	4,5	63	3,5	M4	4x5
55	55	64,1	7	12,0	4,5	68	3,5	M4	4x5
60	60	69,1	7	12,0	4,5	73	3,5	M4	4x5
65	65	74,1	7	12,0	4,5	78	3,5	M4	4x5
70	70	81,0	10	16,0	6,0	84	4,5	M5	5x6
75	75	86,0	10	16,0	6,0	89,5	4,5	M5	5x6
80	80	91,0	10	16,0	6,0	94,5	4,5	M5	5x6
85	85	96,0	10	16,0	6,0	100	4,5	M5	5x6
90	90	101,0	10	16,0	6,0	105	4,5	M5	5x6
95	95	106,0	10	16,0	6,0	109	4,5	M5	5x6
100	100	111,0	10	16,0	6,0	115	4,5	M5	5x6
110	110	122,9	11	18,0	7,5	128	5,0	M6	6x8
115	115	127,4	11	18,0	7,5	133	5,0	M6	6x8
125	125	138,1	11	18,0	7,5	143	5,0	M6	6x8
135	135	147,5	11	18,0	7,5	153	5,0	M6	6x8
140	140	152,9	11	18,0	7,5	158	5,0	M6	6x8
145	145	158,1	11	18,0	7,5	163	5,0	M6	6x8
155	155	167,5	11	19,0	8,5	173	5,0	M6	6x8
165	165	179,9	11	19,0	8,5	185,5	5,0	M6	6x8
175	175	189,3	11	19,0	8,5	195	5,0	M6	6x8



Axially secured

Axially and radially secured

Labyrinth seal SC..LA



For adverse ambient conditions, all SNC bearing housings can be fitted with labyrinth seals. The sealing ring and the sealing groove in the housing form a labyrinth with a narrow sealing gap. The great advantage of these seals is that the bearing arrangement can be operated at the permissible speed for the bearings used. The labyrinth ring is synchronised on the shaft by the installed round cord. The maximum misalignment of the shaft may not be greater than 0.3°. The operating temperature range for this seal is between -40°C and +200°C. We recommend an h9 tolerance class for the shaft.
Optional relubrication of the labyrinth seal is possible. The marking points cast into the housing above the sealing groove are used for this purpose.

Note that one seal must be ordered for each side of the housing.
The delivery includes a labyrinth ring (material: cast iron or steel) and the associated round cord.

Taconite seal SC..TA

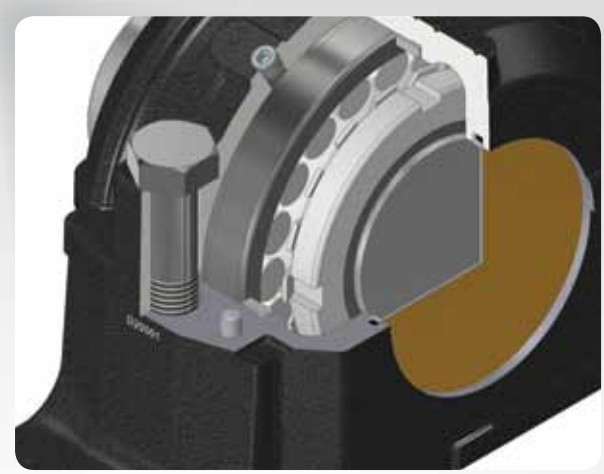
The separable Taconite seal is fixed in the sealing groove between the upper and lower housing sections using an O ring. The labyrinth ring rotates with the shaft. This is ensured by a round cord that is inserted between the shaft and the labyrinth ring. The shaft sealing ring is pressed into the stationary part of the seal. The sealing lip slides on the shaft. The shaft diameter should lie within the tolerance field h9. The circularity tolerance should correspond to IT8. We recommend twist free ground shafts with a roughness of less than Ra 0.8 µm. Misalignment of up to 0.5° is technically possible. The permissible temperature range for this seal is between -40°C and +100°C. Non-tempered shafts can be used for peripheral speeds under 4 m/s. For higher peripheral speeds of up to 8 m/s, the minimum hardness of the surface should be 45 HRC.

This type of seal is predominantly used where extreme ambient conditions prevail. Thanks to its exceptionally robust design, the sealing system protects against fine dust and large dirt particles and is secure against moisture. Overall, three different sealing systems within the component are responsible for the outstanding sealing effect:

- Labyrinth ring that can be relubricated (threaded bore M6) with radial cross pieces;
- Shaft sealing;
- Cavity completely filled with grease, which acts as a grease lock.

Note that one seal must be ordered for each side of the housing.
The delivery includes a completely assembled Taconite seal (lubricating fitting included).

Cover plate SC..EC

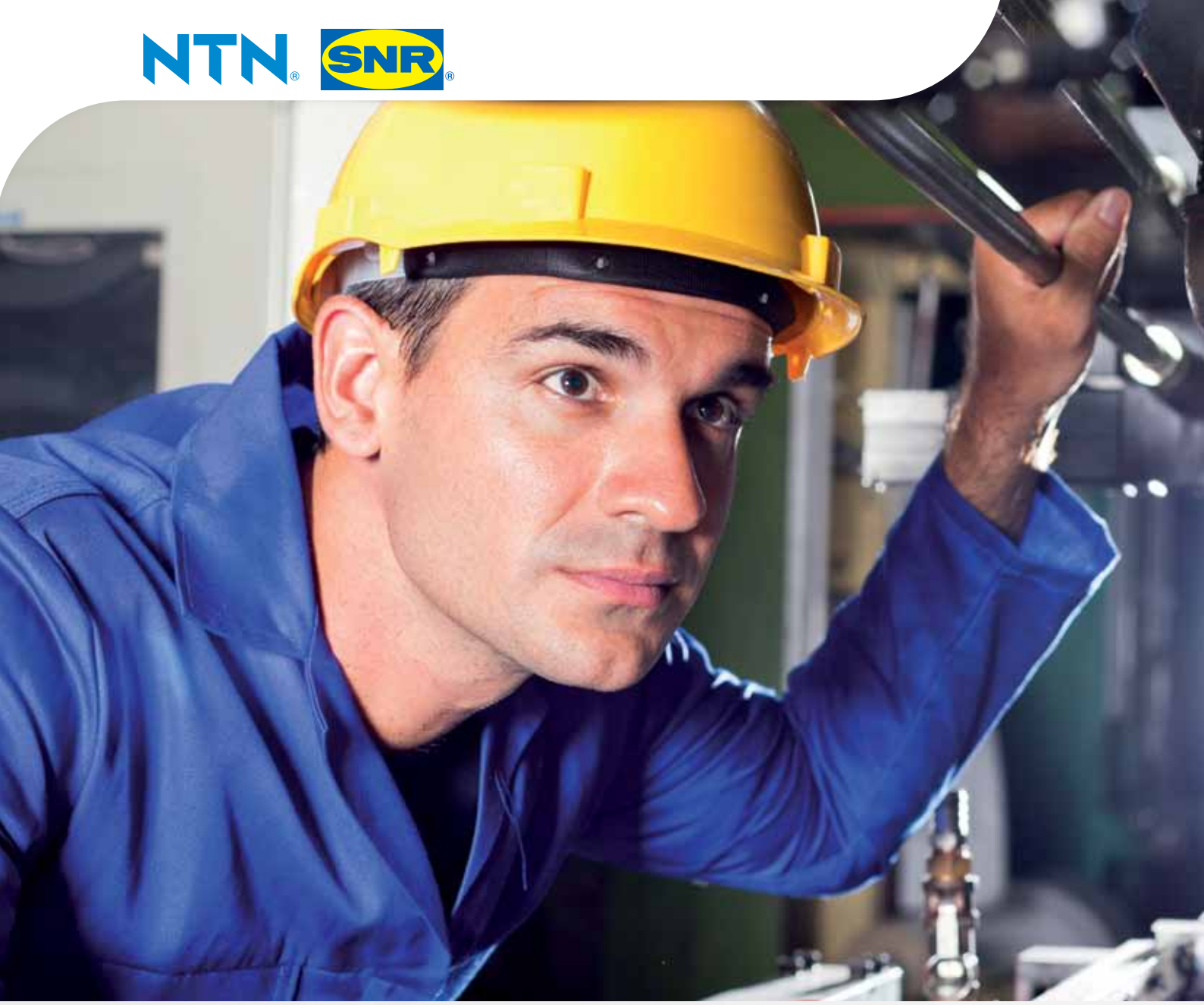


Cover plates are available for all SNC bearing housings. The cover plate is made of corrosion-resistant sheet steel and has a circular rubber lip made of NBR (butadiene acrylonitrile rubber). It is fixed in the sealing groove between the upper and lower section and effectively seals the housing. Cover plates can be combined with any other seal in the SNC range. The temperature range for cover plates is between -40°C and +100°C.

For details of the dimensions of the permissible shaft ends, refer to the dimension table (dimension w1).
The delivery includes one cover plate with vulcanised rubber lip.

Special seals

In special cases, it is possible that standard seals will not satisfy specific operating requirements. For example, if particularly high temperatures are required, SNC bearing housings can be fitted with seals made of special materials. NTN-SNR bearing housings can also be adapted with sealing solutions that differ from the standard design.
Our application engineers will be happy to advise you on the options we offer.



Part 2
Lubrication and mounting

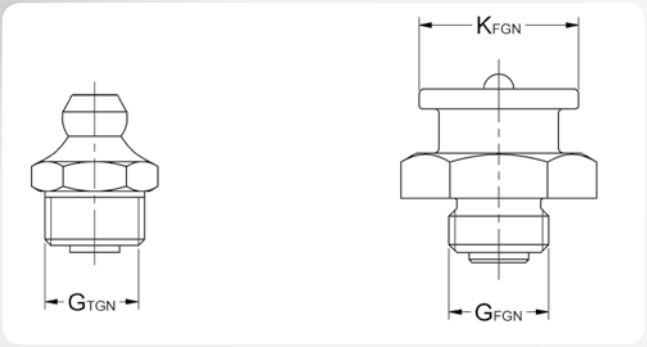
Lubricating fittings

All SNC bearing housings can be lubricated via grease nipples. To that end, there are factory-made threaded holes at two different points of the upper section of the housing. (A) on the bearing's upper section is designed for lubrication through the bearing or for bearings without a central lubrication groove. For bearings that can be lubricated via the outer ring, it is better to feed the lubricant through the lateral (B). (see recommendations on p. 23).

Reference points on the upper section indicate possible positions for fitting a grease nipple. Cone-head and flat head grease nipples are included in the delivery and supplied with the housing. The lubrication holes for larger housings are delivered with their holes plugged with screw plugs in accordance with standard DIN 906. For smaller housings lubrication holes are blanked off with plastic plugs. Grease nipples and Din 906 plugs are supplied with the housing.

Lubricating fitting dimensions

Housing	Size				Flat head DIN 3404	Cone head DIN 71412			
							G_{FGN}	G_{TGN}	K_{FGN}
SNC	205		505		FGN-M6-10	TGN-M6	M6x1	M6x1	10mm
SNC	206-210	305-308	506-510	605-608	FGN-M10-10	TGN-M10	M10x1	M10x1	10mm
SNC	211-232	309-320	511-532	609-620	FGN-M10-16	TGN-M10	M10x1	M10x1	16mm

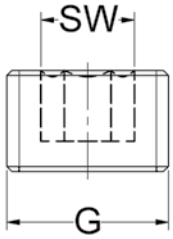


Sealing plug and grease drain hole

To allow excess grease to escape from the housing during relubrication, there is a grease drain hole opposite the lubrication point. It is situated below the shaft outlet opening. It is sealed with a metal threaded plug in the factory. In addition to the default position, other locations can also be selected for the grease drain hole. These positions are indicated by centre punching.

Sealing plug dimensions

Housing	Size				Width across flats (in mm) SW	
						G
SNC	205-210	305-308	505-510	605-608	5	M10x1
SNC	211-215	309-312	511-515	609-612	6	M12x1,5
SNC	216-220	313-318	516-520	613-618	8	M16x1,5
SNC	222-232	319-320	522-532	619-620	10	M20x1,5



Lubrication

Lubricant quantities

The SNC series bearing housings are developed with grease lubrication for operation. High speeds or temperatures, heavy loads and adverse ambient conditions are all influencing factors that necessitate relubrication or replacement of the lubricant. Constant lubricant supply, for example from a central lubricating system, is also conceivable.

For the initial fill, it is essential to make sure that the correct quantity of grease is added. For details, refer to the table below.

Housing size				Grease quantity Initial fill (approx. 60% of cavity) [ccm]
SNC				
205	-	505	-	30
206	305	506	605	45
207	306	507	606	65
208	307	508	607	80
209	-	509	-	105
210	308	510	608	130
211	309	511	609	180
212	310	512	610	210
213	311	513	611	270
214	-	-	-	290
215	312	515	612	330
216	313	516	613	440
217	314	517	-	500
218	315	518	615	650
-	-	519	616	700
-	-	520	617	900
-	318	-	618	1100
-	-	522	619	1200
-	-	524	620	1400
226	-	526	-	1600
228	-	528	-	2000
230	-	530	-	2500
232	-	532	-	3000

For re-lubrication via position A, the lubricant drain hole should be open and the initial filling quantity of grease should be added. When a stable state is attained, i.e. when no more grease comes out, the hole can be plugged again. When re-lubricating spherical roller bearings via the lubrication groove on the outer ring (W33), the quantity of grease needed can be determined with the figures provided on page 42 and 43 of the ULTAGE spherical roller bearings catalogue. In that case it is better to choose position B for re-lubrication.

Mounting the bearings

It is often the case that mounting errors cause the premature failure of a bearing arrangement. We therefore recommend that the mounting instructions are followed as closely as possible to ensure that the rolling bearings are properly mounted.

Use of the correct tools is also a prerequisite. NTN-SNR supplies useful accessories that simplify the mounting work and prevent damage to the bearings.

Bearing with cylindrical bore

A distinction is made between mounting the rolling bearings in a warm or cold condition. The type of mounting depends on the bearing dimensions - bearings with a bore diameter above 40 mm should be mounted when warm.
Using an NTN-SNR induction heating device allows the bearings to be heated to the specified temperature, so that they can be attached to the shaft with no problems. Cold mounting is carried out using a hydraulic press or a suitable alternative tool. For mounting with a mounting sleeve and dead blow (tool IFT set 33/ industrial fitting tool set), it must be ensured that the force must always act on the fixed bearing ring. The end of the mounting sleeve adjacent to the rolling bearing ring must be parallel and perpendicular to the shaft axis. The mounting force should act in line with the shaft axis.
Direct contact between the dead blow and the bearing is to be avoided.

Bearing with tapered bore (adapter sleeve mounting)

The radial clearance of the bearing must be checked using feeler gauges (use NTN-SNR feeler gauges + mounting card). Slide the rolling bearing onto the sleeve and mount the lock nut. Do not fully tighten the lock nut. Slide the pre-mounted rolling bearing and sleeve to the desired position on the shaft. The floating bearing should always be positioned in the centre of the housing. To check this, the shaft can be provisionally placed in the housing. The adapter sleeve nut is now tightened using a hook spanner (available from NTN-SNR). During the tightening process, the reduction of the clearance in the rolling bearing must be constantly checked using the feeler gauges. The recommended residual set for each bearing is provided on page 26. When mounting the self-aligning ball bearings, the lock nut is tightened until the clearance is almost zero. It must be ensured that the outer ring of the bearing can still be easily turned by hand. Once the bearing is correctly set remove lock nut fit lock washer and replace lock nut. The lock nut is fixed and secured by bending a tongue on the lock washer into a groove on the lock nut. The bearings are then filled with the required quantity of grease.

For more details on mounting bearings, see the general NTN-SNR catalogue.

Preparation and important instructions for mounting

- It is important to ensure that mounting can be carried out in an environment that is dry and free of dust.
- The work station or mounting area must be cleaned before starting. Make sure that clean tools are used and that operators are familiar with all safety regulations for the equipment used in mounting.
- Working with compressed air is prohibited in the mounting area (exception: impact wrench).
- The bearings, adapter sleeves, locating rings and regulation discs should not be removed from their original packaging until immediately before mounting.

Caution: Do not wash bearings!

- The shaft, sleeves and the inner sections of the housing should be degreased or cleaned.
- It must be ensured that the clamping surface is clean and even (min. IT7, measured across diagonal). We recommend a roughness of approx. Ra 12.5µm for the clamping surface.
- The upper and lower sections of the housing have identical markings on the side. If several housings are being mounted simultaneously, they may not under any circumstances be exchanged.

The seals include mounting instructions in the packaging.

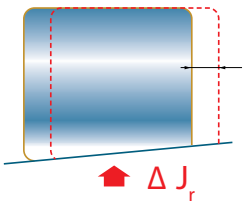
Checking the radial clearance on assembly

Bearing bore [mm]		Before assembly						After assembly						Axial displacement [mm]			
		CN		C3		C4		CN		C3		C4					
From	To	According ISO 5753 [mm]		According ISO 5753 [mm]		According ISO 5753 [mm]		Feeler gauge*		Feeler gauge*		Feeler gauge*		Taper 1:12		Taper 1:30	
		Min.	Max.	Min.	Max.	Min.	Max.	yes	no	yes	no	yes	no	Min.	Max.	Min.	Max.
30	40	0,035	0,050	0,050	0,065	0,065	0,085	2	3	3	4	4	5	0,350	0,400	–	–
40	50	0,045	0,060	0,060	0,080	0,080	0,100	3	4	3	5	4	6	0,400	0,450	–	–
50	65	0,055	0,075	0,075	0,095	0,095	0,120	3	5	4	6	5	7	0,450	0,600	–	–
65	80	0,070	0,095	0,095	0,120	0,120	0,150	4	6	5	7	6	8	0,600	0,750	–	–
80	100	0,080	0,110	0,110	0,140	0,140	0,180	4	6	6	8	7	10	0,700	0,900	1,700	2,200
100	120	0,100	0,135	0,135	0,170	0,170	0,220	5	7	7	9	9	12	0,750	1,100	1,900	2,700
120	140	0,120	0,160	0,160	0,200	0,200	0,260	8	11	10	13	12	17	1,100	1,400	2,700	3,500
140	160	0,130	0,180	0,180	0,230	0,230	0,300	8	12	11	15	14	19	1,200	1,600	3,000	4,000
160	180	0,140	0,200	0,200	0,260	0,260	0,340	9	13	12	17	16	21	1,300	1,700	3,200	4,200
180	200	0,160	0,220	0,220	0,290	0,290	0,370	11	16	15	20	20	26	1,400	2,000	3,500	5,000
200	225	0,180	0,250	0,250	0,320	0,320	0,410	12	17	17	22	22	28	1,600	2,200	4,000	5,500
225	250	0,200	0,270	0,270	0,350	0,350	0,450	14	19	18	24	24	31	1,700	2,400	4,200	6,700
250	280	0,220	0,300	0,300	0,390	0,390	0,490	15	21	20	27	26	33	1,900	2,700	4,700	6,700
280	315	0,240	0,330	0,330	0,430	0,430	0,540	16	23	22	29	29	37	2,000	3,000	5,000	7,500
315	355	0,270	0,360	0,360	0,470	0,470	0,590	18	25	24	32	32	40	2,400	3,300	6,000	8,200
355	400	0,300	0,400	0,400	0,520	0,520	0,650	20	27	27	36	35	44	2,600	3,600	6,500	9,000
400	450	0,330	0,440	0,440	0,570	0,570	0,720	22	30	29	39	38	49	3,100	4,000	7,700	10,000
450	500	0,370	0,490	0,490	0,630	0,630	0,790	25	33	33	43	42	54	3,300	4,400	8,200	11,000
500	600	0,410	0,540	0,540	0,680	0,680	0,870	28	37	36	46	46	59	3,700	5,000	9,200	12,500

*Practical measurement of clearance to within 1/100th of a mm by means feeler gauges.

Relation between the axial displacement (a) of a bearing with tapered bore and the corresponding reduction of its clearance ΔJ_r:

Taper 1/12	$a = 12\ \Delta J_r / t_i$
Taper 1/30	$a = 30\ \Delta J_r / t_i$



a = Axial displacement

ΔJ_r = Radial clearance reduction

t_i = Adjustment impact on the inner ring:

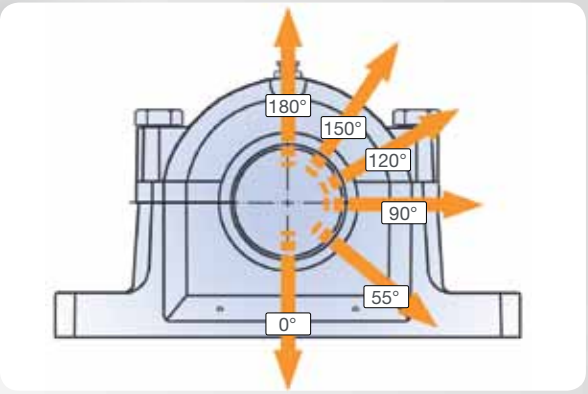
t_i = 0,75 of the bearing is directly mounted on a solid shaft taper journal.

t_i = 0,7 if the bearing is mounted on a taper sleeve

Loads and torques

The table below contains information about the breaking loads of SNC bearing housings and the maximum loading capacity of the connecting bolts between the upper and lower section and the foot bolts. The load directions and the safety factor selected for the appropriate operating conditions can be used to determine the permissible loads. In general, a safety factor of 6 is used for engineering calculations. For applications involving impacts or extreme loads approaching breaking load, EN-GJS SNCD cast iron housings (see p. 30) can be used. Their breaking load is approximately 1.8 times higher than the values given below. The values below are given solely as a rough guide.

Bolts to specification ISO 4014 (DIN EN 24014) Property class 8.8	Recommended tightening torque [Nm]
M10	35
M12	65
M16	150
M20	290
M24	500
M30	1005



Housing size				Housing breaking loads in load direction					
SNC				0°	55°	90°	120°	150°	180°
				[kN]	[kN]	[kN]	[kN]	[kN]	[kN]
205	-	505	-	180	160	95	70	60	80
206	305	506	605	200	170	100	80	67	85
207	306	507	606	224	190	121	85	80	95
208	307	508	607	265	220	132	95	85	115
209	-	509	-	280	235	140	100	90	120
210	308	510	608	315	265	160	121	110	140
211	309	511	609	355	280	170	125	118	145
212	310	512	610	355	300	180	132	125	160
213	311	513	611	400	345	210	150	132	170
214	-	-	-	450	360	220	160	145	185
215	312	515	612	475	411	250	185	160	215
216	313	516	613	500	430	265	190	175	220
217	314	517	-	560	480	290	205	191	250
218	315	518	615	670	550	340	250	220	285
-	-	519	616	710	580	355	265	230	300
-	-	520	617	750	630	375	280	250	320
-	318	-	618	800	670	400	315	280	340
-	-	522	619	950	800	450	355	320	400
-	-	524	620	950	800	475	355	320	420
226	-	526	-	1060	900	540	410	360	450
228	-	528	-	1250	1060	630	475	430	530
230	-	530	-	1400	1200	730	540	480	600
232	-	532	-	1700	1450	860	640	570	730

Connecting bolts (upper/ lower section)	Max. Load capacity for both bolts in load direction			Foot bolts
Property class 8.8	120°	150°	180°	Property class 8.8
	[kN]	[kN]	[kN]	
M10x40	60	35	30	M12
M10x40	60	35	30	M12
M10x45	60	35	30	M12
M12x50	80	45	40	M12
M12x55	80	45	40	M12
M12x55	80	45	40	M12
M16x60	180	100	90	M16
M16x60	180	100	90	M16
M16x70	180	100	90	M16
M16x70	180	100	90	M16
M16x70	180	100	90	M16
M16x80	180	100	90	M20
M16x80	180	100	90	M20
M20x90	260	150	130	M20
M20x100	260	150	130	M20
M24x100	360	210	180	M24
M24x110	360	210	180	M24
M24x130	360	210	180	M24
M24x130	360	210	180	M24
M24x130	360	210	180	M24
M24x140	360	210	180	M30
M24x150	360	210	180	M30
M30x160	730	532	360	M30

Housing fixing

Markings for mounting on I sections

Four markings in housing foot specify the positions that can be used for the alternative fastening holes. These should be used if the housing cannot be mounted using the two centrally positioned fastening holes. For example, this can be the case when attaching to I sections. The positions for the bolt holes and there diameters can be found in the table on Page 29.

Pin markings for additional dowel pins

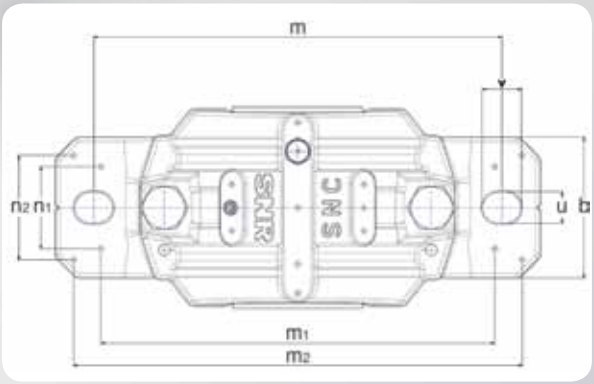
SNC bearing housings can be fixed onto the mounting surface using additional dowel pins. To do this, drill holes at the four marking points for the dowel pins. Pinning is useful if extremely high loads will occur parallel to the mounting surface. The position of the holes in the support surface and the recommended dowel pin diameters can be found in the table on Page 29.

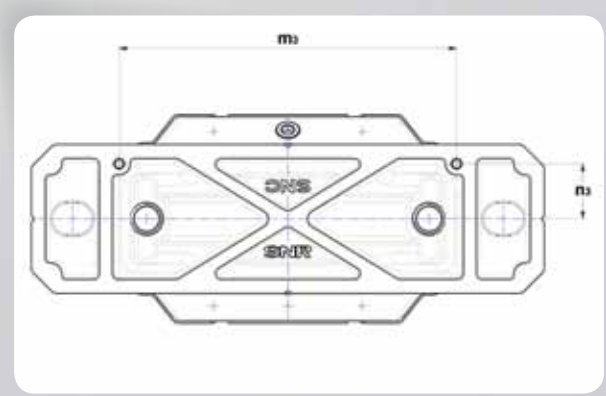
Dowel holes

The holes drilled on the underside of the housing foot simplify precise alignment of the units in series production. Dowel pin holes that have been pre-installed in the mounting surface are set out in the table on Page 29 to indicate there exact positions. If modification of the housing is necessary, the dowel holes can also be used for setting up in the machining process.

Housing sizes SNC				Marking for alternative mounting bolt holes			Marking for additional dowel pins			Pre drilled dowel holes		
						Bore			Pin			Pin
				m1	n1	Ø	m2	n2	Ø	m3 ± 0,1*	n3 ± 0,1*	Ø
205	-	505	-	116	28	7	152	32	5	101	18	5
206	305	506	605	130	25	7	172	38	5	113	18	5
207	306	507	606	135	25	7	172	38	5	113	18	5
208	307	508	607	160	34	11	188	44	6	130	22	5
209	-	509	-	160	34	11	188	44	6	130	22	5
210	308	510	608	160	34	11	188	44	6	130	22	5
211	309	511	609	200	40	14	234	49	8	162	24	6
212	310	512	610	200	40	14	234	54	8	162	24	6
213	311	513	611	220	48	14	252	58	8	182	29	6
214	-	-	-	220	48	14	252	58	8	182	29	6
215	312	515	612	220	48	14	257	58	8	186	31,5	6
216	313	516	613	252	52	18	288	66	8	210	32,5	6
217	314	517	-	252	52	18	292	66	8	210	32,5	6
218	315	518	615	280	58	18	317	70	8	227	37	6
-	-	519	616	280	58	18	317	70	8	227	37	6
-	-	520	617	300	66	18	348	78	8	250	40	8
-	318	-	618	300	66	18	348	78	8	250	40	8
-	-	522	619	320	74	18	378	88	8	282	45	8
-	-	524	620	330	74	18	378	88	8	282	45	8
226	-	526	-	370	80	22	414	92	12	302	49,5	8
228	-	528	-	400	92	26	458	108	12	327	59	8
230	-	530	-	430	100	26	486	116	12	352	62	8
232	-	532	-	450	100	26	506	116	12	372	62,5	8

* as a reference the measurement m3 and n3 is taken from the centre line of the housing





The new spheroidal-graphite (ductile) cast iron housings (EN-GJS : SNCD)

NTN-SNR's new SNCD range has been created to meet more demanding requirements in terms of resistance and stability. The use of bearings with a higher load capacity and the use of higher dynamic loads in modern machines explains this market trend. SNCD housings are currently available from size 520 upwards (smaller dimensions are available on request).

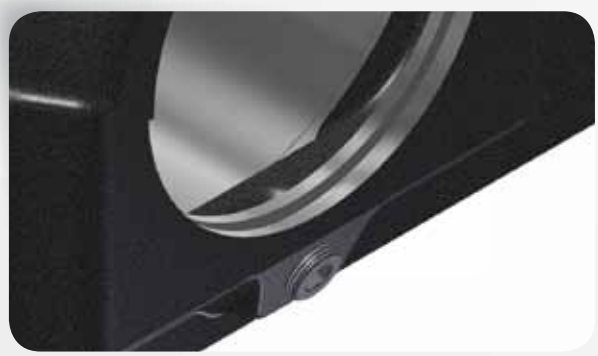
Benefits:

- new range in EN-GJS cast iron for specific applications in accordance with standard DIN EN 1563
- new and robust design*
- the advantageous characteristics of EN-GJS cast iron make for stronger housing with a higher load capacity*
- higher tensile strength*
- better elasticity before failure of spheroidal-graphite cast iron, hence good shock absorbing properties and positive influence on the behaviour of bearings in applications
- especially well suited to low-temperature applications
- the breaking load of the housing is 1.8 times higher*
- identical dimensions* - which means the same type of bearings and seals can be used

* with respect to housings in standard grey cast iron

Grease drain holes:

- Delivered with a grease drain hole
- the drain hole is located in the housing lower section opposite the lubrication point
- better accessibility thanks to the optimized angle of entry
- two additional marks for alternative positions

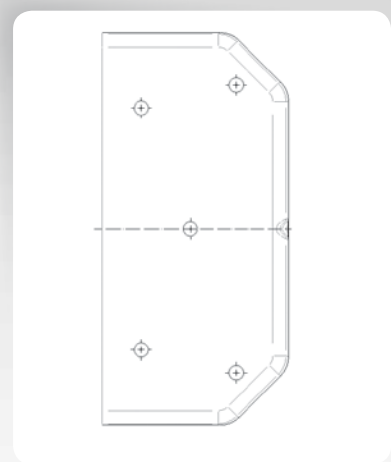


Resistance properties:

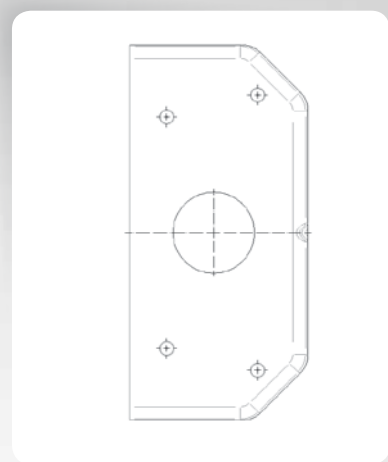
The development of SNCD housings drew on the very latest knowledge concerning finite element calculations. The optimized reinforcement ribs on the upper section, the reinforced structure of the linking bolts and the solid construction of mounting surfaces make for particularly high stability and rigidity. Moreover, the improved construction of the base area reduces stress peaks in the material at the bearing journal.

Fixing options:

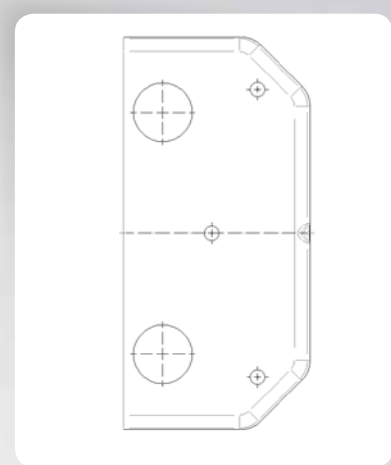
There are several options for fixing SNCD housings to the clamping surface. SNCD housings are delivered as standard with a solid leg, without a clamping hole. On each side, the projected area contains three marks representing available positions for drilling holes for the leg's bolts. The holes can be drilled by the user as shown in the diagram below, or directly by NTN-SNR on request. Example for an SNCD 522-619 with four holes for mounting, order: SNCD 522-619MH2.



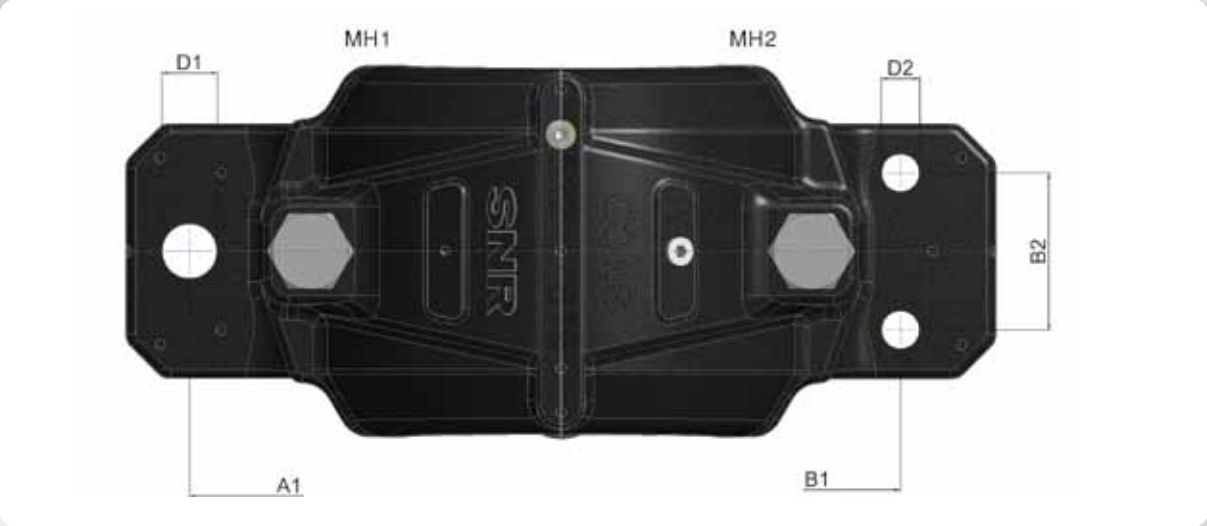
Standard version with no hole for mounting
SNCD



Version with two holes for mounting
SNCD..MH1



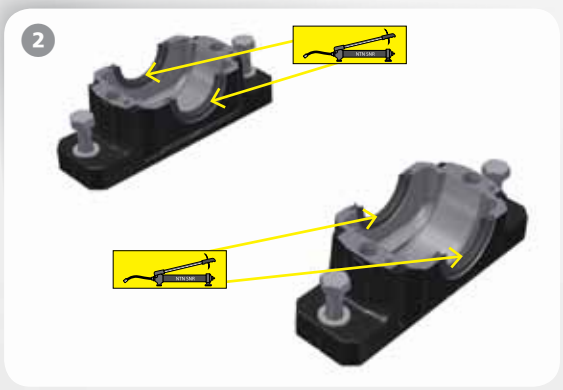
Version with four holes for mounting
SNCD..MH2



	MH1		MH2		
	A1	D1	B1	B2	D2
	[mm]	[mm]	[mm]	[mm]	[mm]
SNCD 510-608	170	15	160	34	11
SNCD 511-609	210	18	200	40	14
SNCD 512-610	210	18	200	40	14
SNCD 513-611	230	18	220	48	14
SNCD 515-612	230	18	220	48	14
SNCD 516-613	260	22	252	52	18
SNCD 517	260	22	252	52	18
SNCD 518-615	290	22	280	58	18
SNCD 519-616	290	22	280	58	18
SNCD 520-617	320	26	300	66	18
SNCD 522-619	350	26	320	74	18
SNCD 524-620	350	26	330	74	18
SNCD 226-526	380	28	370	80	22
SNCD 228-528	420	35	400	92	26
SNCD 230-530	450	35	430	100	26
SNCD 232-532	470	35	450	100	26

Double lip seal mounting SC..DS

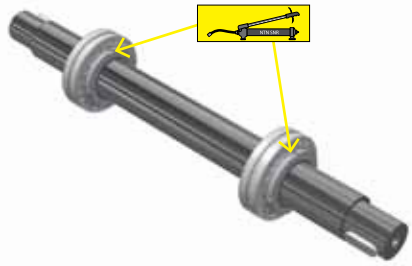
Locate the lower sections of the housings.



Insert half of the seal into the sealing grooves on each lower housing section. In units with an internal shaft end, only one seal is required in total. The cover plate SC..EC is used instead of the second seal in this case.

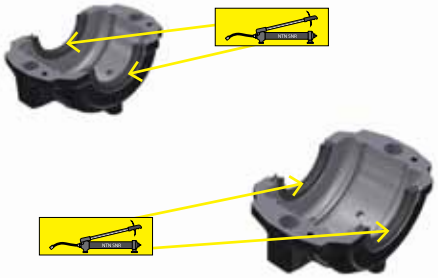
Add lubricant to the cavity between the two sealing lips.

3



Clamp the shaft horizontally (protect the shaft against damage in the area of the clamping). The bearings should be positioned on the shaft as described in the *Mounting the bearings* section and completely filled with grease.

4

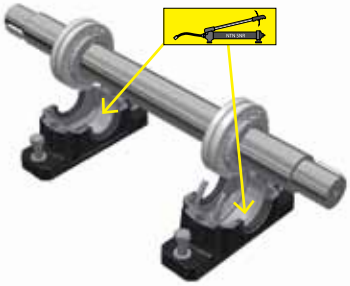


Insert the other halves of the seals into the sealing grooves on the upper housing sections and add lubricant in the cavity between the two sealing lips.

Units with regulation discs

In units with a regulation disc, the regulation discs must be mounted on the grease drain hole side. The position is specified in the table on Page 12. When using rolling bearings with adapter sleeves, it must be ensured that the lock nuts are positioned on the lubricating fitting side. Tighten the two set screws with the appropriate tightening torques as set out in the table on Page 12 (this only applies to 500 and 600 series regulation discs).

5



Insert the pre-mounted shaft into the lower housing section. For the floating bearing version, position the bearing centrally on the bearing seat. Distribute the remaining quantities of grease (table on Page 23) evenly in the lower housing sections.

Locating rings

For the fixed bearing version, insert the two locating rings on each side of the bearing in the lower housing section.

6

Position the lower housing section correctly using the alignment markings and slightly tighten the foot bolts.

7

Install the upper part of the bearing and tighten the connecting bolts evenly at the tightening torque specified in the table on page 27.

Check the alignment of the bearing housing again and then tighten the foot bolts to the appropriate tightening torque (table, Page 27).

Felt strip seal mounting SC..FS

1

Locate the lower sections of the housings.

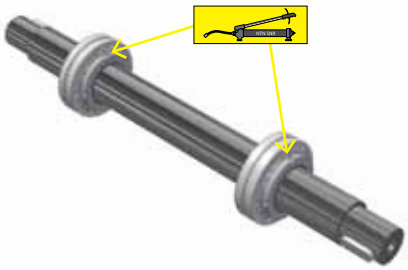
2

Insert a round cord into the sealing grooves on each lower housing section. In units with an internal shaft end, only one seal is required in total. The cover plate SC..EC is used instead of the second seal in this case.

3

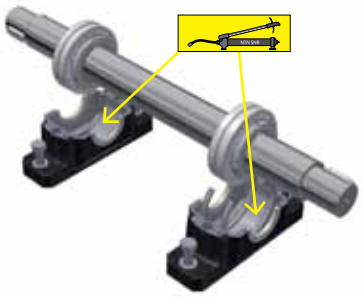
Insert the retainer containing the oil-soaked felt strips into the sealing grooves in the lower housing sections on top of the round cord.

4



Clamp the shaft horizontally (protect the shaft against damage in the area of the clamping). When using V-rings, slide those that are located between the bearing units (internal) onto the shaft. Later mounting is not possible. The bearings should be positioned on the shaft as described in the *Mounting the bearings* section and completely filled with grease.

5



Insert the pre-mounted shaft into the lower housing section. For the floating bearing version, position the bearing centrally on the bearing seat. Distribute the remaining quantities of grease (table, Page 23) evenly in the lower housing sections.

Locating rings

For the fixed bearing version, insert the two locating rings on each side of the bearing in the lower housing section.

Units with regulation discs

In units with a regulation disc, the regulation discs must be mounted on the grease drain hole side. The position is specified in the table on Page 12. When using rolling bearings with adapter sleeves, it must be ensured that the lock nuts are positioned on the lubricating fitting side. Tighten the two set screws with the appropriate tightening torques as set out in the table on Page 12 (this only applies to 500 and 600 series regulation discs).

6

When using V-rings, now slide those located outside the housing onto the shaft. Position the lower housing section correctly using the alignment markings and slightly tighten the foot bolts.

7

Insert the remaining round cords into the grooves on the upper housing sections and then insert the retainers containing the oil-soaked felt strips.

8

Position the upper housing section and tighten the connecting bolts evenly to the tightening torques specified in the table on Page 27. Slide all pre-mounted V-rings with sealing lips to their final position next to the contact washers. Grease the sealing lips first.

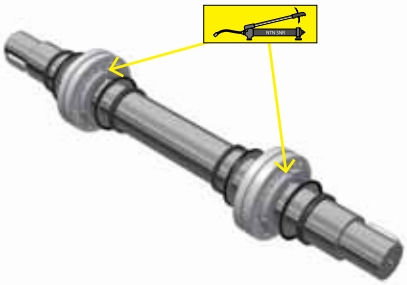
Check the alignment of the bearing housing again and then tighten the foot bolts to the appropriate tightening torque (table, Page 27).

V-ring seal mounting SC..SV

1

Locate the lower sections of the housings.

2

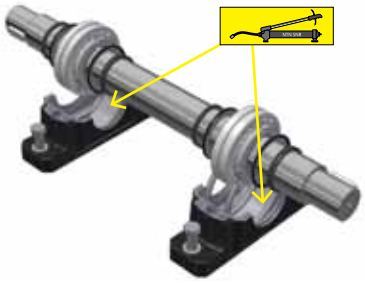


Clamp the shaft horizontally (protect the shaft against damage in the area of the clamping). The internal contact washers and V-rings are slid onto the shaft first. The sequence and arrangement of the sealing elements is crucial to ensure correct mounting. On units with an internal shaft end, only one contact washer and one V-ring is used. The cover SC..EC is used instead of the second seal in this case. The bearings should be positioned on the shaft as described in the *Mounting the bearings* section and completely filled with grease.

Units with regulation discs

Regulation discs must be mounted on the side of the grease drain hole. The position is specified in the table on Page 12. When using rolling bearings with adapter sleeves, it must be ensured that the lock nuts are positioned on the lubricating fitting side. Tighten the two set screws with the appropriate tightening torques as shown in the table on Page 12 (this only applies to 500 and 600 series regulation discs).

3



Insert the pre-mounted shaft into the lower housing section. Carefully insert the contact washers into the sealing grooves on the lower housing sections. For the floating bearing version position the bearing centrally on the bearing seat.
Distribute the remaining quantities of grease (table, Page 23) evenly in the lower housing sections.

Locating rings

For the fixed bearing version, insert the two locating rings on the side of the bearing in the lower housing section.

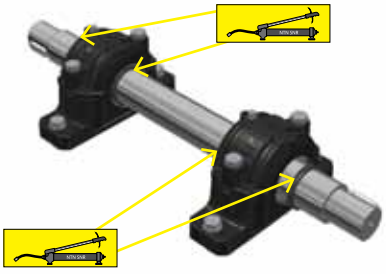
4

Position the lower housing section correctly using the alignment markings and slightly tighten the foot bolts.

5

Position the upper housing section and tighten the connecting bolts evenly to the tightening torques specified in the table on Page 27.

6



Slide all pre-mounted V-rings with sealing lips to their final position next to the contact washers. Grease the sealing lips first.

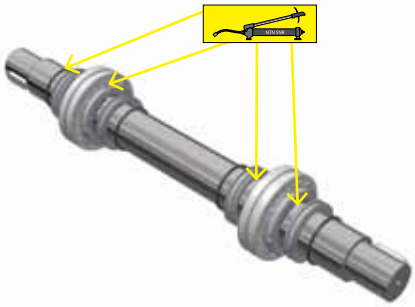
Check the alignment of the bearing housing again and then tighten the foot bolts to the appropriate tightening torque (table, Page 27).

Labyrinth seal mounting SC..LA

1

Locate the lower sections of the housings.

2

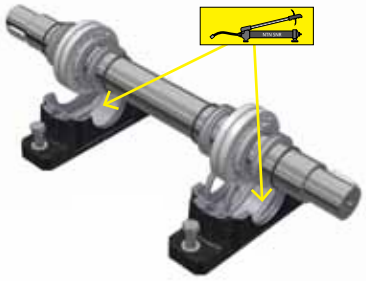


Clamp the shaft horizontally (protect the shaft against damage in the area of the clamping).Slide the internal labyrinth rings onto the shaft. Ensure the correct mounting direction. On units with an internal shaft end, only one labyrinth seal is used. The cover plate SC..EC is used instead of the second seal in this case. The bearings should be positioned on the shaft as described in the *Mounting the bearings* section and completely filled with grease. Then position the external labyrinth rings on the shaft in the correct mounting direction.

Units with regulation discs

Regulation discs must be mounted on the side of the grease drain hole. The position is specified in the table on Page 12. When using rolling bearings with adapter sleeves, it must be ensured that the lock nuts are positioned on the lubricating fitting side. Tighten the two set screws with the appropriate tightening torques as shown in the table on Page 12 (this only applies to 500 and 600 series regulation discs).

3



Insert the pre-mounted shaft into the lower housing section. Carefully insert the labyrinth seals into the sealing grooves on the lower housing sections. For the floating bearing version, position the bearing centrally on the bearing seat. Distribute the remaining quantities of grease (table, Page 23) evenly in the lower housing sections.

Locating rings

For the fixed bearing version, insert the two locating rings on each side of the bearing in the lower housing section.

4

Position the lower housing section correctly using the alignment markings and slightly tighten the foot bolts.

5

Position the upper housing section and tighten the connecting bolts evenly to the tightening torques specified in the table on Page 27.

6

Press a round cord into each circular groove between the shaft and the labyrinth ring. Using a screwdriver makes it easier to insert the cord.

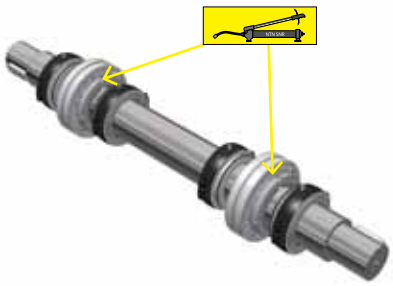
Check the alignment of the bearing housing again and then tighten the foot bolts to the appropriate tightening torque (table, Page 27).

Taconite seal mounting SC..TA

1

Locate the lower sections of the housings.

2

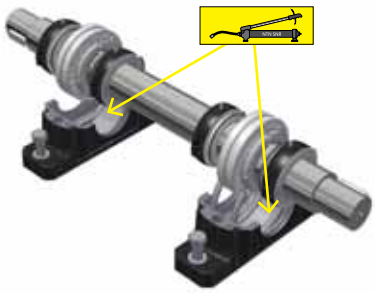


Clamp the shaft horizontally (protect the shaft against damage in the area of the clamping).
Before mounting the Taconite seals, lightly grease the shaft sealing rings. Slide the internal sealing elements into place so that the ring grooves with the O ring attached point towards the housing. On units with an internal shaft end, only one Taconite seal is used. The cover plate SC..EC is used instead of the second seal in this case.
The bearings should be positioned on the shaft as described in the *Mounting the bearings* section and completely filled with grease. Now slide the external Taconite seals onto the shaft, ring grooves first.

Units with regulation discs

Regulation discs must be mounted on the side of the grease drain hole. The position is specified in the table on Page 12. When using rolling bearings with adapter sleeves, it must be ensured that the lock nuts are positioned on the lubricating fitting side. Tighten the two set screws with the appropriate tightening torques as shown in the table on Page 12 (this only applies to 500 and 600 series regulation discs).

3



Carefully insert sealing elements with O rings into the sealing grooves on the lower housing sections. For the floating bearing version, position the bearing centrally on the bearing seat. Distribute the remaining quantities of grease (look at table on page 23) evenly in the lower housing sections.

Locating rings

For the fixed bearing version, insert the two locating rings on the side of the bearing in the lower housing section.

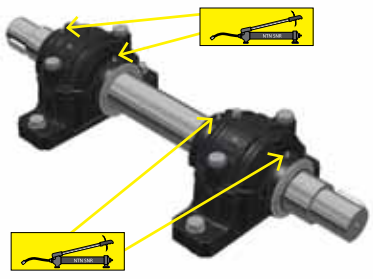
4

Position the lower housing section correctly using the alignment markings and slightly tighten the foot bolts.

5

Position the upper housing section and tighten the connecting bolts evenly to the tightening torque specified in the table on Page 27

6



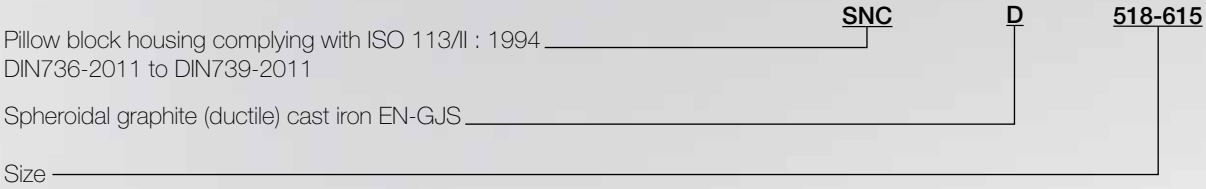
Press a round cord into each circular groove between the shaft and the labyrinth ring. Using a screwdriver makes it easier to insert the cord. Remove plug from the lubricating fitting bore and screw in the lubricating fitting supplied. The seals should then be greased by the lubricating fitting while the shaft is rotating, until grease escapes at the labyrinths. Check the alignment of the bearing housing again and then tighten the foot bolts to the appropriate tightening torque (table, Page 27).


SNR
613 · 611 ·

Part 3
Technical data for housing

Designations and explanations

Housing



500 Series

Bearing housing for rolling bearings with tapered bore from series 1200K, 2200K, 22200K and 23200K
Shaft diameter: 20 mm – 140 mm

600 Series

Bearing housing for rolling bearings with tapered bore from series 1300K, 2300K, 21300K and 22300K
Shaft diameter: 20 mm – 90 mm

200 Series

Bearing housing for rolling bearings with cylindrical bore from series 1200, 2200, 22200 and 23200
Shaft diameter: 25 mm – 160 mm

300 Series

Bearing housing for rolling bearings with cylindrical bore from series 1300, 2300, 21300 and 22300
Shaft diameter: 25 mm – 100 mm

Fixed bearing version

All SNC housings can be used as fixed bearings by using locating rings. Locating rings must be ordered separately. Two locating rings are required per housing. The corresponding sizes can be found in the dimension table.

Delivery conditions

Each SNC bearing housing comes complete with appropriate flat headed and tapered lubricating fittings. These are not fitted and can be found inside the housing. The corresponding threaded holes in the upper part of the bearing are delivered plugged with a screw plug in accordance with standard DIN 906, or the blanking screws are supplied with the housing. A metal threaded screw is screwed into the drain hole in the lower section. The shaft outlets are protected by plastic plugs.

Material / Colour / Corrosion Protection

The SNC bearings are made of grey cast iron in accordance with standard DIN E N 1561. In the event of impact load or use at low temperature, the bearings in cast EN-GJS iron as per standard DIN EN 1563 are available from size 520 upwards (smaller ones are available on request, see page 30, SNCD chapter). All the outer surfaces are lacquered as standard in RAL9005. The machined surfaces in the lower part and on the block are treated with a corrosion-resistant product.

Seal variants and kit sets

• SC..DS	Double lip seal	1x double lip seal (2-part)
• SC..FS	Felt strip seal	1x retainer (2-part) / 1x round cord (2-part) / Felt strips (2-part)
• SC..SV	V-ring seal	1x V-ring (A version) / 1x contact washer
• SC..LA	Labyrinth seal	1x Labyrinth ring / 1x round cord
• SC..TA	Taconite seal	1x Taconite seal (multi-part; assembled)
• V..A	V-ring (A version) in addition to SC..FS	
• SC..EC	Cover plate	

All SNC units are designed for both through shaft and blank end bearing arrangements. A cover (SC...EC) is available for blank end versions. This is inserted in the groove between the upper and lower sections in place of the second seal.

Further information about the individual seal versions can be found in the Sealing systems section.

NOTE

To provide maximum flexibility when it comes to selection, SNC seals are packaged as a set. One seal set is required for each side of the housing.

Accessories
Grease regulation disc RDC

Regulation discs are available as an option. The corresponding sizes can be found in the dimension table.

Further information about the grease regulation discs can be found in the corresponding section.

Examples for ordering SNC bearing housing

A

Pillow block housing for through shaft; Self-aligning ball bearing 2212 with cylindrical bore for shaft diameter 60 mm; felt strip seal with additional V-ring seal; floating bearing version.

1 Pillow block housing	NTN-SNR	SNC 212-310
1 Self-aligning ball bearing	NTN-SNR	2212
2 Felt strip seals	NTN-SNR	SC212FS
2 V-ring seals	NTN-SNR	V70A

B

Pillow block housing for shaft end bearing arrangements; self-aligning roller bearing 23218K with adapter sleeve for shaft diameter 80 mm; double lip seal; regulation disc; fixed bearing version.

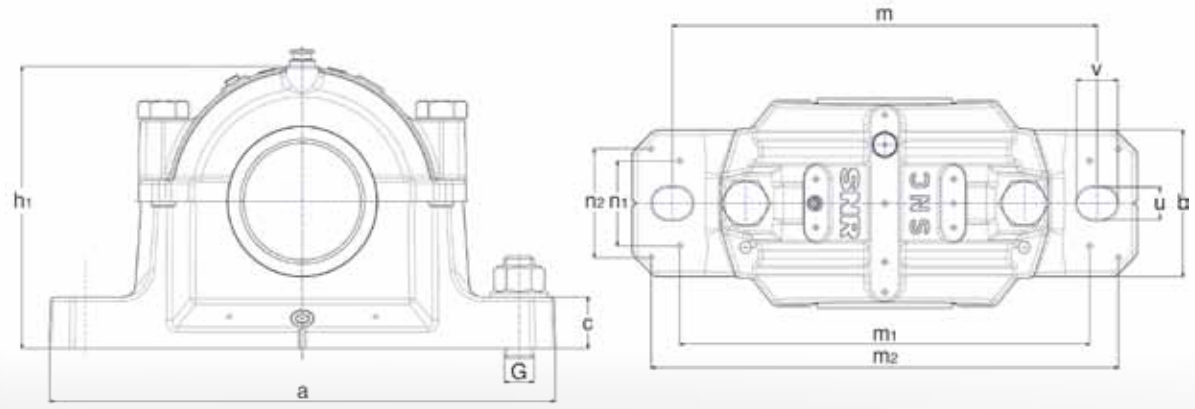
1 Pillow block housing	NTN-SNR	SNC 518-615
1 Self-aligning roller bearing	NTN-SNR	23218EK
1 Adapter sleeve	NTN-SNR	H2318
2 Locating rings	NTN-SNR	FR160x6,25
1 Double lip seal	NTN-SNR	SC518DS
1 Cover plate	NTN-SNR	SC518-615EC
1 Regulation disc	NTN-SNR	RDC518

Bearing systems

NTN-SNR is a specialist in bearings and related systems. Take advantage of our knowledge and experience in mounting bearings. With us you can procure complete units and fully-mounted modules.
Our range of products includes complete systems of components with shaft and customer-specific solutions. These bearing systems can be integrated directly into your applications. Purchasing turnkey solutions is justified by the cost reduction, in particular for mass production. The logistics processes are simpler, stock levels are lower and entry into service is quicker. In addition, the risk of mounting errors is reduced.
On request, we supply detailed documentation, including for instance, a description of tests as per standard DIN EN 10204, and, mounting and measuring protocols.

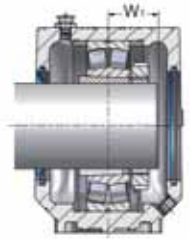
Take advantage of the recognised quality of NTN-SNR products and services.

Dimension table

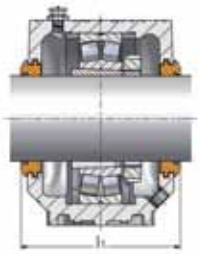


d	TYP	D	a	b	c	g	h	l	m	G	u	v	h1	m1	n2	m2	n1	n3	Weight	
Shaft [mm]	Housing dimensions [mm]																		kg	
20	SNC 505	52	165	46	19	25	40	67	130	M12	15	20	74	116	32	152	28	36	1,6	
	SNC 605	62	185	52	22	32	50	77	150	M12	15	20	89	130	38	172	25	44	2,3	
25	SNC 506	62	185	52	22	32	50	77	150	M12	15	20	89	130	38	172	25	44	2,3	
	SNC 606	72	185	52	22	34	50	82	150	M12	15	20	93	135	38	172	25	46	2,4	
30	SNC 507	72	185	52	22	34	50	82	150	M12	15	20	93	135	38	172	25	46	2,4	
	SNC 607	80	205	60	25	39	60	85	170	M12	15	20	107	160	44	188	34	50	3,2	

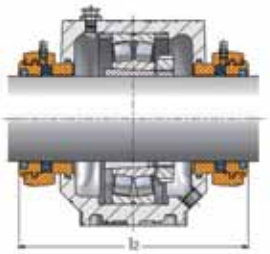
1) Seals must be ordered for each side of the housing.
2) Optional V-ring available for felt strip seal (FS).



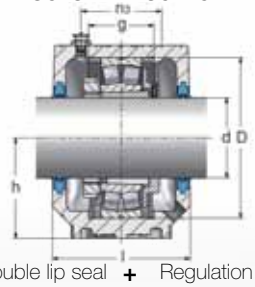
V-ring seal + Cover
SC..SV SC..EC



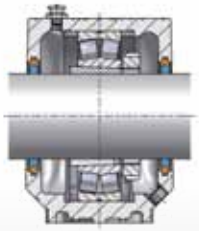
Labyrinth seal
SC..LA



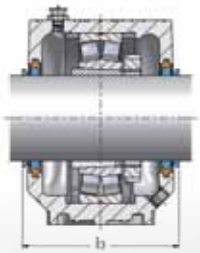
Taconite seal
SC..TA



Double lip seal + Regulation disc
SC..DS RDC



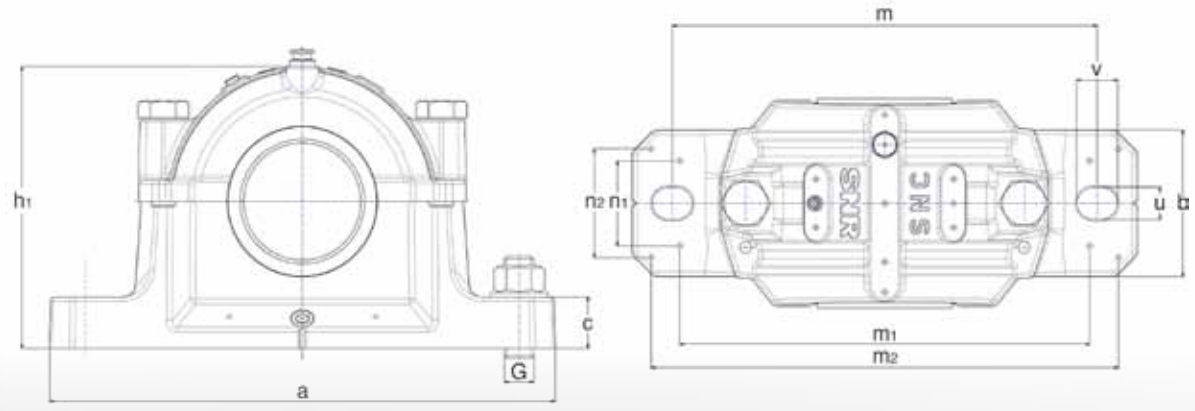
Felt strip seal
SC..FS



Felt strip seal + V-Ring
SC..FS V..A

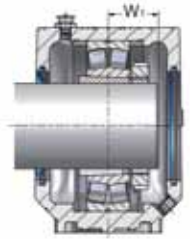
	Housing	Seal [1]	V-Ring [2]	Cover	w1	l1	l2	l3	Regulation disc	Rolling bearing	Adapter sleeve	Location ring
					[mm]							2x per housing
	SNC 505	SC505DS SC505FS SC505SV SC505LA SC505TA	V20A	SC505EC	18,0 19,5 19,5	79	134	85	RDC505	1205K 2205K 22205K	H205 H305 H305	FR52x5 FR52x3,5 FR52x3,5
	SNC 506-605	SC605DS SC605FS SC605SV SC605LA SC605TA	V20A	SC506-605EC	19,0 22,5 19,0	89	144	95	RDC605	1305K 2305K 21305K	H305 H2305 H305	FR62x7,5 FR62x4 FR62x7,5
	SNC 506-605	SC506DS SC506FS SC506SV SC506LA SC506TA	V25A	SC506-605EC	18,5 20,5 20,5	89	144	95	RDC506	1206K 2206K 22206K	H206 H306 H306	FR62x8 FR62x6 FR62x6
	SNC 507-606	SC606DS SC606FS SC606SV SC606LA SC606TA	V25A	SC507-606EC	20,0 24,0 20,0	94	148	100	RDC606	1306K 2306K 21306K	H306 H2306 H306	FR72x7,5 FR72x3,5 FR72x7,5
	SNC 507-606	SC507DS SC507FS SC507SV SC507LA SC507TA	V30A	SC507-606EC	20,0 23,0 23,5	94	148	100	RDC507	1207K 2207K 22207K	H207 H307 H307	FR72x8,5 FR72x5,5 FR72x5,5
	SNC 508-607	SC607DS SC607FS SC607SV SC607LA SC607TA	V30A	SC508-607EC	22,0 27,0 23,0	97	151	103	RDC607	1307K 2307K 21307K	H307 H2307 H307	FR80x9 FR80x4 FR80x9

Dimension table

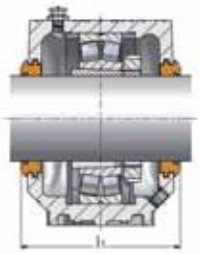


d	TYP	D	a	b	c	g	h	l	m	G	u	v	h1	m1	n2	m2	n1	n3	Weight	
Shaft [mm]	Housing dimensions [mm]																		kg	
35	SNC 508	80	205	60	25	39	60	85	170	M12	15	20	107	160	44	188	34	50	3,2	
	SNC 608	90	205	60	25	41	60	90	170	M12	15	20	113	160	44	188	34	53	3,4	
40	SNC 509	85	205	60	25	30	60	85	170	M12	15	20	110	160	44	188	34	44	3,2	
	SNC 609	100	255	70	28	44	70	95	210	M16	18	24	127	200	49	234	40	56	5,1	
45	SNC 510	90	205	60	25	41	60	90	170	M12	15	20	113	160	44	188	34	53	3,4	
	SNC 610	110	255	70	30	48	70	105	210	M16	18	24	133	200	54	234	40	64	5,4	

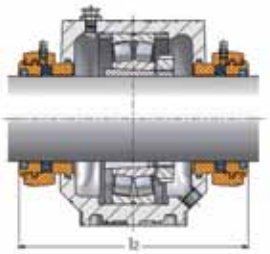
1) Seals must be ordered for each side of the housing.
2) Optional V-ring available for felt strip seal (FS).



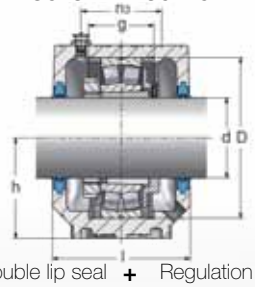
V-ring seal + Cover
SC..SV SC..EC



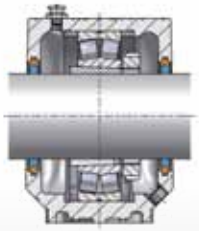
Labyrinth seal
SC..LA



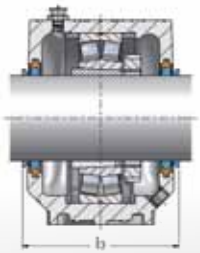
Taconite seal
SC..TA



Double lip seal + Regulation disc
SC..DS RDC



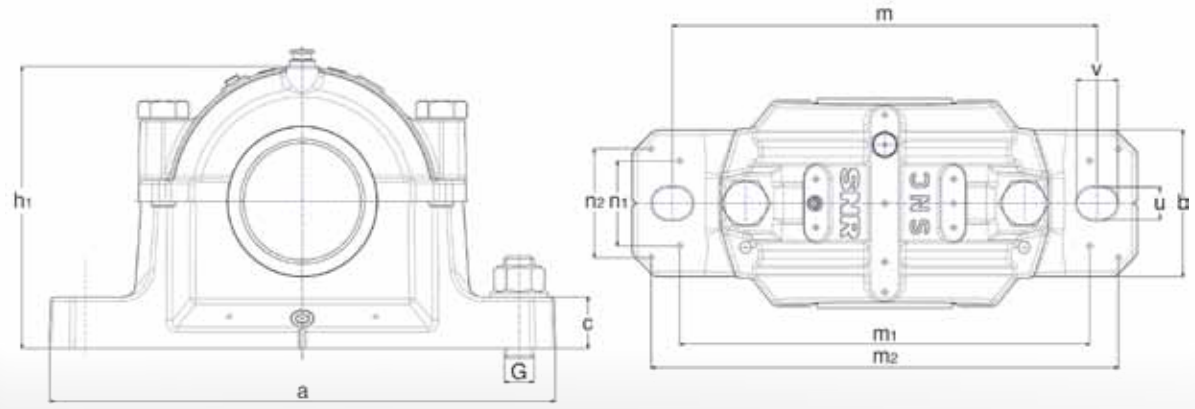
Felt strip seal
SC..FS



Felt strip seal + V-Ring
SC..FS V..A

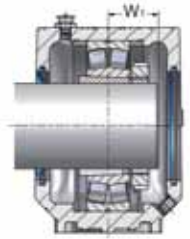
	Housing	Seal [1]	V-Ring [2]	Cover	w1	l1	l2	l3	Regulation disc	Rolling bearing	Adapter sleeve	Location ring
					[mm]							2x per housing
		SC508DS			21,5					1208K	H208	FR80x10,5
		SC508FS	V35A		24,0					2208K	H308	FR80x8
	SNC 508-607	SC508SV		SC508-607EC	24,0	97	151	103	RDC508	22208K	H308	FR80x8
		SC508LA										
		SC508TA										
		SC608DS			24,0					1308K	H308	FR90x9
		SC608FS	V35A		29,0					2308K	H2308	FR90x4
	SNC 510-608	SC608SV		SC510-608EC	24,0	102	156	108	RDC608	21308K	H308	FR90x9
		SC608LA			29,0					22308K	H2308	FR90x4
		SC608TA										
		SC509DS			23,0					1209K	H209	FR85x5,5
		SC509FS	V40A		25,0					2209K	H309	FR85x3,5
	SNC 509	SC509SV		SC509EC	25,0	97	151	107	RDC509	22209K	H309	FR85x3,5
		SC509LA										
		SC509TA										
		SC609DS			26,0					1309K	H309	FR100x9,5
		SC609FS	V40A		31,5					2309K	H2309	FR100x4
	SNC 511-609	SC609SV		SC511-609EC	26,0	107	162	117	RDC609	21309K	H309	FR100x9,5
		SC609LA			31,5					22309K	H2309	FR100x4
		SC609TA										
		SC510DS			24,5					1210K	H210	FR90x10,5
		SC510FS	V45A		26,0					2210K	H310	FR90x9
	SNC 510-608	SC510SV		SC510-608EC	26,0	102	156	112	RDC510	22210K	H310	FR90x9
		SC510LA										
		SC510TA										
		SC610DS			28,0					1310K	H310	FR110x10,5
		SC610FS	V45A		34,5					2310K	H2310	FR110x4
	SNC 512-610	SC610SV		SC512-610EC	28,0	117	172	127	RDC610	21310K	H310	FR110x10,5
		SC610LA			34,5					22310K	H2310	FR110x4
		SC610TA										

Dimension table

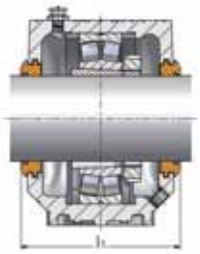


d	TYP	D	a	b	c	g	h	l	m	G	u	v	h1	m1	n2	m2	n1	n3	Weight	
Shaft [mm]	Housing dimensions [mm]																		kg	
50	SNC 511	100	255	70	28	44	70	95	210	M16	18	24	127	200	49	234	40	56	5,1	
	SNC 611	120	275	80	30	51	80	110	230	M16	18	24	148	220	58	252	48	63	7,0	
55	SNC 512	110	255	70	30	48	70	105	210	M16	18	24	133	200	54	234	40	64	5,4	
	SNC 612	130	280	80	30	56	80	115	230	M16	18	24	155	220	58	257	48	72	7,3	
60	SNC 513	120	275	80	30	51	80	110	230	M16	18	24	148	220	58	252	48	63	7,0	
	SNC 613	140	315	90	32	58	95	120	260	M20	22	28	175	252	66	288	52	72	10,4	

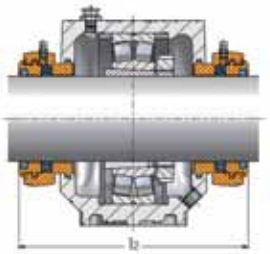
1) Seals must be ordered for each side of the housing.
2) Optional V-ring available for felt strip seal (FS).



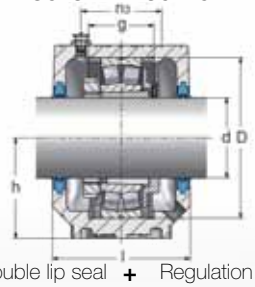
V-ring seal + Cover
SC..SV SC..EC



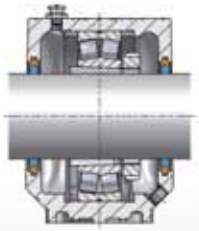
Labyrinth seal
SC..LA



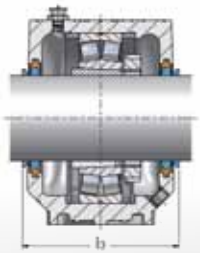
Taconite seal
SC..TA



Double lip seal + Regulation disc
SC..DS RDC



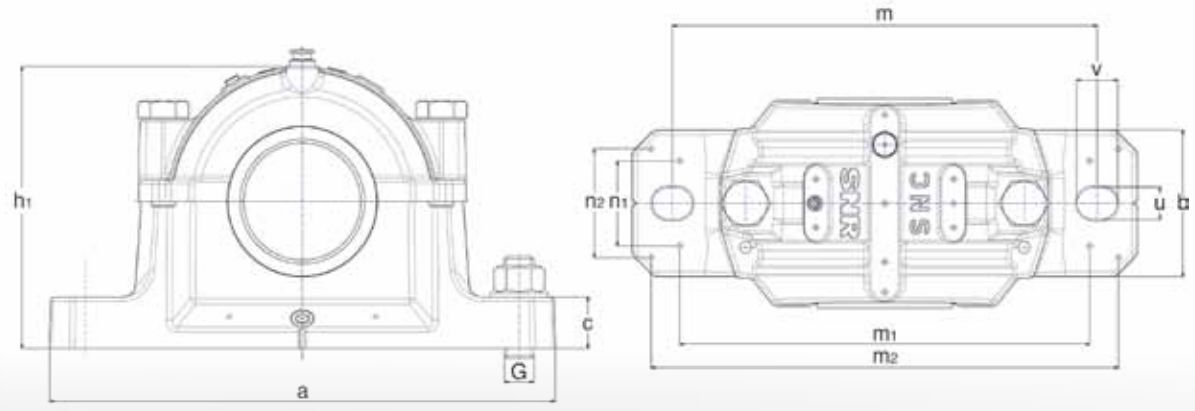
Felt strip seal
SC..FS



Felt strip seal + V-Ring
SC..FS V..A

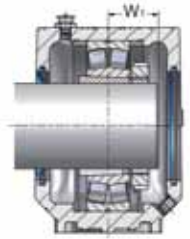
	Housing	Seal [1]	V-Ring [2]	Cover	w1	l1	l2	l3	Regulation disc	Rolling bearing	Adapter sleeve	Location ring
					[mm]							2x per housing
		SC511DS			25,5					1211K	H211	FR100x11,5
		SC511FS	V50A		27,5					2211K	H311	FR100x9,5
	SNC 511-609	SC511SV		SC511-609EC	27,5	107	162	117	RDC511	22211K	H311	FR100x9,5
		SC511LA										
		SC511TA										
		SC611DS			29,5					1311K	H311	FR120x11
		SC611FS	V50A		36,5					2311K	H2311	FR120x4
	SNC 513-611	SC611SV		SC513-611EC	29,5	122	177	132	RDC611	21311K	H311	FR120x11
		SC611LA			36,5					22311K	H2311	FR120x4
		SC611TA										
		SC512DS			26,5					1212K	H212	FR110x13
		SC512FS	V55A		29,5					2212K	H312	FR110x10
	SNC 512-610	SC512SV		SC512-610EC	29,5	117	172	127	RDC512	22212K	H312	FR110x10
		SC512LA										
		SC512TA										
		SC612DS			31,0					1312K	H312	FR130x12,5
		SC612FS	V55A		38,5					2312K	H2312	FR130x5
	SNC 515-612	SC612SV		SC515-612EC	31,0	127	184	137	RDC612	21312K	H312	FR130x12,5
		SC612LA			38,5					22312K	H2312	FR130x5
		SC612TA										
		SC513DS			28,0					1213K	H213	FR120x14
		SC513FS	V60A		32,0					2213K	H313	FR120x10
	SNC 513-611	SC513SV		SC513-611EC	32,0	122	177	132	RDC513	22213K	H313	FR120x10
		SC513LA										
		SC513TA										
		SC613DS			33,0					1313K	H313	FR140x12,5
		SC613FS	V60A		40,5					2313K	H2313	FR140x5
	SNC 516-613	SC613SV		SC516-613EC	33,0	135	195	142	RDC613	21313K	H313	FR140x12,5
		SC613LA			40,5					22313K	H2313	FR140x5
		SC613TA										

Dimension table

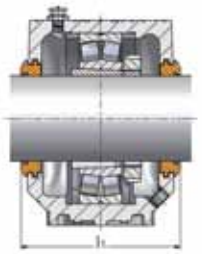


d	TYP	D	a	b	c	g	h	l	m	G	u	v	h1	m1	n2	m2	n1	n3	Weight	
Shaft [mm]	Housing dimensions [mm]																		kg	
65	SNC 515	130	280	80	30	56	80	115	230	M16	18	24	155	220	58	257	48	72	7,3	
	SNC 615	160	345	100	35	65	100	140	290	M20	22	28	192	280	74	319	58	80	13,5	
70	SNC 516	140	315	90	32	58	95	120	260	M20	22	28	175	252	66	288	52	72	10,4	
	SNC 616	170	345	100	35	68	112	145	290	M20	22	28	212	280	70	317	58	88	15,6	
75	SNC 517	150	320	90	32	61	95	125	260	M20	22	28	183	252	66	292	52	76	10,2	
	SNC 617	180	380	110	40	70	112	160	320	M24	26	32	215	300	78	348	66	104	18,4	

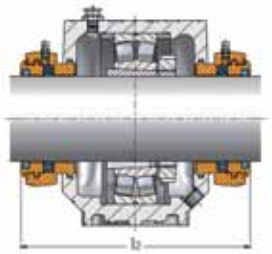
1) Seals must be ordered for each side of the housing.
2) Optional V-ring available for felt strip seal (FS).



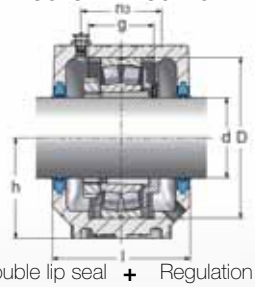
V-ring seal + Cover
SC..SV SC..EC



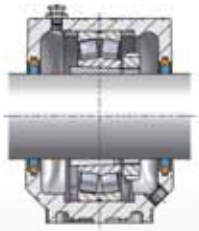
Labyrinth seal
SC..LA



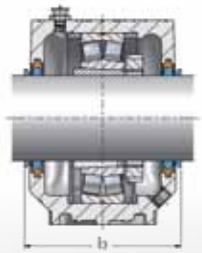
Taconite seal
SC..TA



Double lip seal + Regulation disc
SC..DS RDC



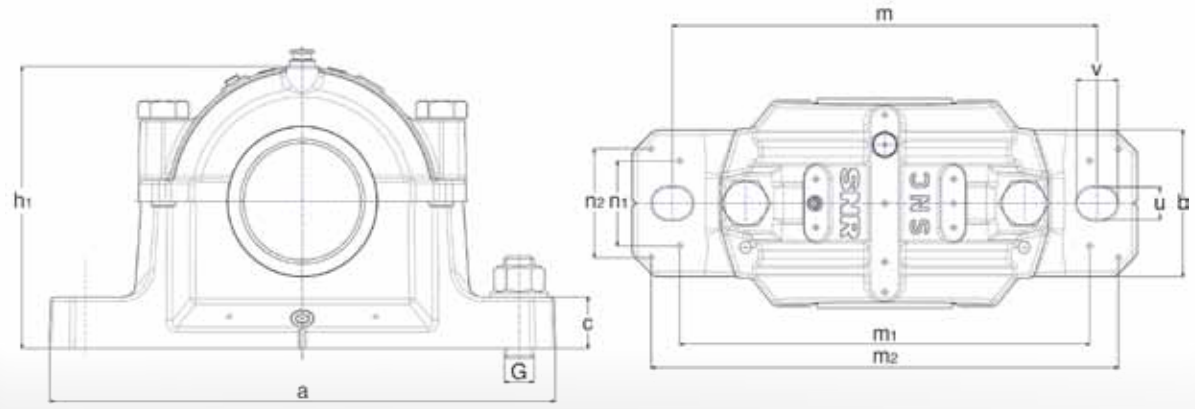
Felt strip seal
SC..FS



Felt strip seal + V-Ring
SC..FS V..A

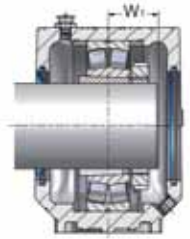
	Housing	Seal [1]	V-Ring [2]	Cover	w1	l1	l2	l3	Regulation disc	Rolling bearing	Adapter sleeve	Location ring
					[mm]							2x per housing
		SC515DS			30,0					1215K	H215	FR130x15,5
		SC515FS	V65A		33,0					2215K	H315	FR130x12,5
	SNC 515-612	SC515SV		SC515-612EC	33,0	127	184	137	RDC515	22215K	H315	FR130x12,5
		SC515LA										
		SC515TA										
		SC615DS			36,0					1315K	H315	FR160x14
		SC615FS	V65A		45,0					2315K	H2315	FR160x5
	SNC 518-615	SC615SV		SC518-615EC	36,0	155	221	162	RDC615	21315K	H315	FR160x14
		SC615LA			45,0					22315K	H2315	FR160x5
		SC615TA										
		SC516DS			32,5					1216K	H216	FR140x16
		SC516FS	V70A		36,0					2216K	H316	FR140x12,5
	SNC 516-613	SC516SV		SC516-613EC	36,0	135	195	147	RDC516	22216K	H316	FR140x12,5
		SC516LA										
		SC516TA										
		SC616DS			39,0					1316K	H316	FR170x14,5
		SC616FS	V70A		48,5					2316K	H2316	FR170x5
	SNC 519-616	SC616SV		SC519-616EC	39,0	159	216	172	RDC616	21316K	H316	FR170x14,5
		SC616LA			48,5					22316K	H2316	FR170x5
		SC616TA										
		SC517DS			34,5					1217K	H217	FR150x16,5
		SC517FS	V75A		38,5					2217K	H317	FR150x12,5
	SNC 517	SC517SV		SC517EC	38,5	140	205	152	RDC517	22217K	H317	FR150x12,5
		SC517LA										
		SC517TA										
		SC617DS			41,0					1317K	H317	FR180x14,5
		SC617FS	V75A		50,5					2317K	H2317	FR180x5
	SNC 520-617	SC617SV		SC520-617EC	41,0	174	231	187	RDC617	21317K	H317	FR180x14,5
		SC617LA			50,5					22317K	H2317	FR180x5
		SC617TA										

Dimension table

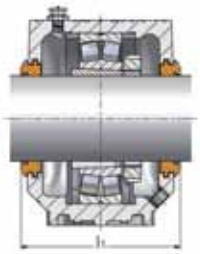


d	TYP	D	a	b	c	g	h	l	m	G	u	v	h1	m1	n2	m2	n1	n3	Weight	
Shaft [mm]	Housing dimensions [mm]																		kg	
80	SNC 518	160	345	100	35	65	100	140	290	M20	22	28	192	280	74	319	58	80	13,5	
	SNC 618	190	380	110	40	74	112	160	320	M24	26	32	220	300	78	348	66	104	18,5	
85	SNC 519	170	345	100	35	68	112	145	290	M20	22	28	212	280	70	317	58	88	15,6	
	SNC 619	200	410	120	45	80	125	175	350	M24	26	32	242	320	88	378	74	110	24,7	
90	SNC 520	180	380	110	40	70	112	160	320	M24	26	32	215	300	78	348	66	104	18,4	
	SNC 620	215	410	120	45	86	140	185	350	M24	26	32	271	330	88	378	74	122	30,0	

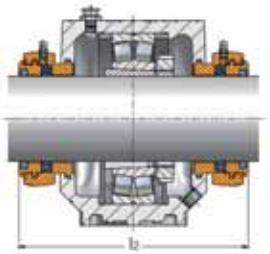
1) Seals must be ordered for each side of the housing.
2) Optional V-ring available for felt strip seal (FS).



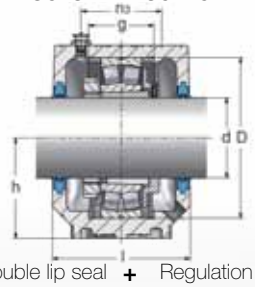
V-ring seal + Cover
SC..SV SC..EC



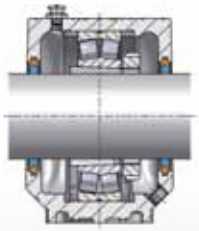
Labyrinth seal
SC..LA



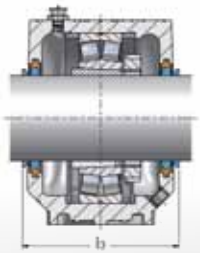
Taconite seal
SC..TA



Double lip seal + Regulation disc
SC..DS RDC



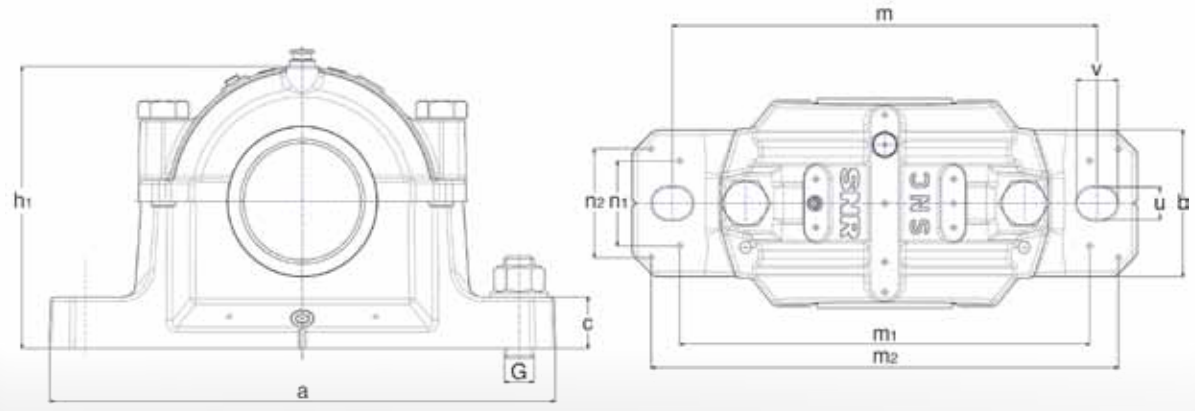
Felt strip seal
SC..FS



Felt strip seal + V-Ring
SC..FS V..A

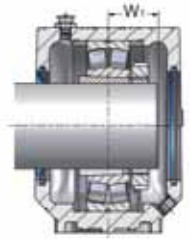
	Housing	Seal [1]	V-Ring [2]	Cover	w1	l1	l2	l3	Regulation disc	Rolling bearing	Adapter sleeve	Location ring
					[mm]							2x per housing
		SC518DS			35,5					1218K	H218	FR160x17,5
		SC518FS	V80A		40,5					2218K	H318	FR160x12,5
	SNC 518-615	SC518SV		SC518-615EC	40,5	155	221	167	RDC518	22218K	H318	FR160x12,5
		SC518LA			46,8					23218K	H2318	FR160x6,25
		SC518TA										
		SC618DS			42,0					1318K	H318	FR190x15,5
		SC618FS	V80A		52,5					2318K	H2318	FR190x5
	SNC 318-618	SC618SV		SC318-618EC	42,0	172	229	187	RDC618	21318K	H318	FR190x15,5
		SC618LA			52,5					22318K	H2318	FR190x5
		SC618TA										
		SC519DS			37,5					1219K	H219	FR170x18
		SC519FS	V85A		43,0					2219K	H319	FR170x12,5
	SNC 519-616	SC519SV		SC519-616EC	43,0	159	216	172	RDC519	22219K	H319	FR170x12,5
		SC519LA										
		SC519TA										
		SC619DS			44,0					1319K	H319	FR200x17,5
		SC619FS	V85A		55,0					2319K	H2319	FR200x6,5
	SNC 522-619	SC619SV		SC522-619EC	44,0	189	246	202	RDC619	21319K	H319	FR200x17,5
		SC619LA			55,0					22319K	H2319	FR200x6,5
		SC619TA										
		SC520DS			39,5					1220K	H220	FR180x18
		SC520FS	V90A		45,5					2220K	H320	FR180x12
	SNC 520-617	SC520SV		SC520-617EC	45,5	174	231	187	RDC520	22220K	H320	FR180x12
		SC520LA			52,7					23220K	H2320	FR180x4,85
		SC520TA										
		SC620DS			46,0					1320K	H320	FR215x19,5
		SC620FS	V90A		59,0					2320K	H2320	FR215x6,5
	SNC 524-620	SC620SV		SC524-620EC	46,0	199	256	212	RDC620	21320K	H320	FR215x19,5
		SC620LA			59,0					22320K	H2320	FR215x6,5
		SC620TA										

Dimension table

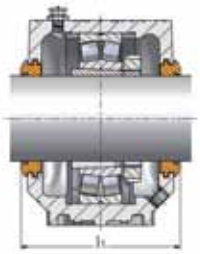


d	TYP	D	a	b	c	g	h	l	m	G	u	v	h1	m1	n2	m2	n1	n3	Weight	
Shaft [mm]	Housing dimensions [mm]																		kg	
100	SNC 522	200	410	120	45	80	125	175	350	M24	26	32	242	320	88	378	74	110	24,7	
110	SNC 524	215	410	120	45	86	140	185	350	M24	26	32	271	330	88	378	74	122	30,0	
115	SNC 526	230	445	130	50	90	150	190	380	M24	28	35	290	370	92	414	80	122	36,6	
125	SNC 528	250	500	150	50	98	150	205	420	M30	35	42	302	400	108	458	92	128	42,6	
135	SNC 530	270	530	160	60	106	160	220	450	M30	35	42	323	430	116	486	100	140	55,2	
140	SNC 532	290	550	160	60	114	170	235	470	M30	35	42	344	450	116	506	100	155	63,0	

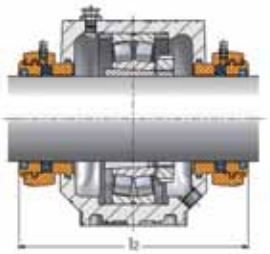
1) Seals must be ordered for each side of the housing.
2) Optional V-ring available for felt strip seal (FS).



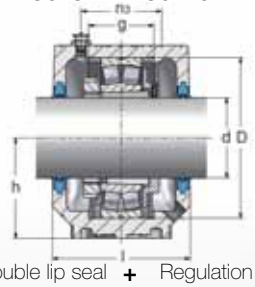
V-ring seal + Cover
SC..SV SC..EC



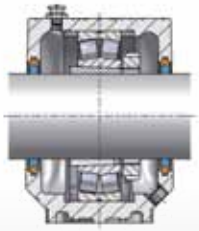
Labyrinth seal
SC..LA



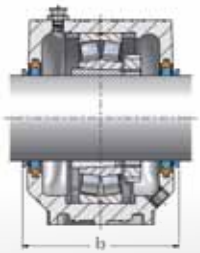
Taconite seal
SC..TA



Double lip seal + Regulation disc
SC..DS RDC



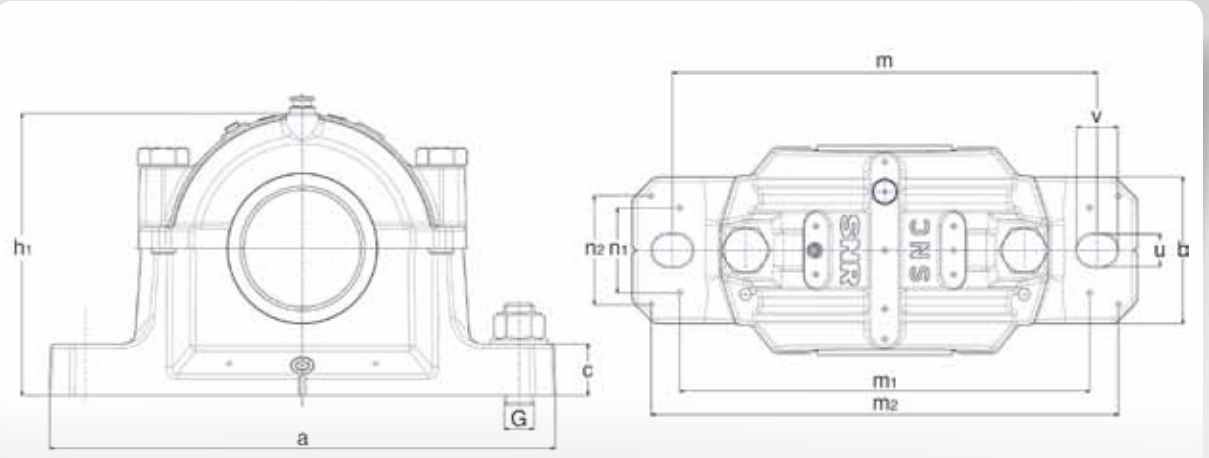
Felt strip seal
SC..FS



Felt strip seal + V-Ring
SC..FS V..A

	Housing	Seal [1]	V-Ring [2]	Cover	w1	l1	l2	l3	Regulation disc	Rolling bearing	Adapter sleeve	Location ring
					[mm]							2x per housing
	SNC 522-619	SC522DS SC522FS SC522SV SC522LA SC522TA	V100A	SC522-619EC	42,5 50,0 50,0 58,4	189	246	202	RDC522	1222K 2222K 22222K 23222K	H222 H322 H322 H2322	FR200x21 FR200x13,5 FR200x13,5 FR200x5,1
	SNC 524-620	SC524DS SC524FS SC524SV SC524LA SC524TA	V110A	SC524-620EC	53,5 62,5	199	256	216	RDC524	22224K 23224K	H3124 H2324	FR215x14 FR215x5
	SNC 226-526	SC526DS SC526FS SC526SV SC526LA SC526TA	V120A	SC226-526EC	57,5 65,5	207	269	221	RDC526	22226K 23226K	H3126 H2326	FR230x13 FR230x5
	SNC 228-528	SC528DS SC528FS SC528SV SC528LA SC528TA	V130A	SC228-528EC	60,5 70,5	222	284	236	RDC528	22228K 23228K	H3128 H2328	FR250x15 FR250x5
	SNC 230-530	SC530DS SC530FS SC530SV SC530LA SC530TA	V140A	SC230-530EC	65,0 76,5	236	301	251	RDC530	22230K 23230K	H3130 H2330	FR270x16,5 FR270x5
	SNC 232-532	SC532DS SC532FS SC532SV SC532LA SC532TA	V140A	SC232-532EC	70,5 82,5	254	319	266	RDC532	22232K 23232K	H3132 H2332	FR290x17 FR290x5

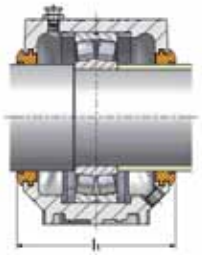
Dimension table



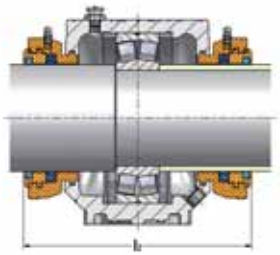
d	TYP	d1	D	a	b	c	g	h	l	m	G	u	v	h1	m1	n2	m2	n1	n3	Weight	
Shaft [mm]	Housing dimensions [mm]																			kg	
25	SNC 205	30	52	165	46	19	25	40	67	130	M12	15	20	74	116	32	152	28	36	1,5	
	SNC 305	30	62	185	52	22	32	50	77	150	M12	15	20	89	130	38	172	25	44	2,1	
30	SNC 206	35	62	185	52	22	32	50	77	150	M12	15	20	89	130	38	172	25	44	2,1	
	SNC 306	35	72	185	52	22	34	50	82	150	M12	15	20	93	135	38	172	25	46	2,4	
35	SNC 207	45	72	185	52	22	34	50	82	150	M12	15	20	93	135	38	172	25	46	2,3	
	SNC 307	45	80	205	60	25	39	60	85	170	M12	15	20	107	160	44	188	34	50	3,1	

1) Seals must be ordered for each side of the housing.
2) Optional V-ring available for felt strip seal (FS).

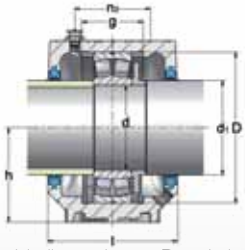
V-ring seal + Cover
SC..SV SC..EC



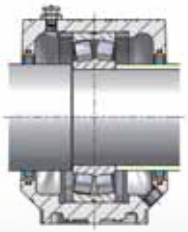
Labyrinth seal
SC..LA



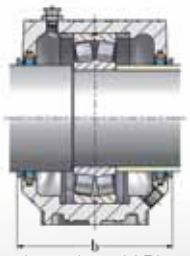
Taconite seal
SC..TA



Double lip seal + Regulation disc
SC..DS RDC



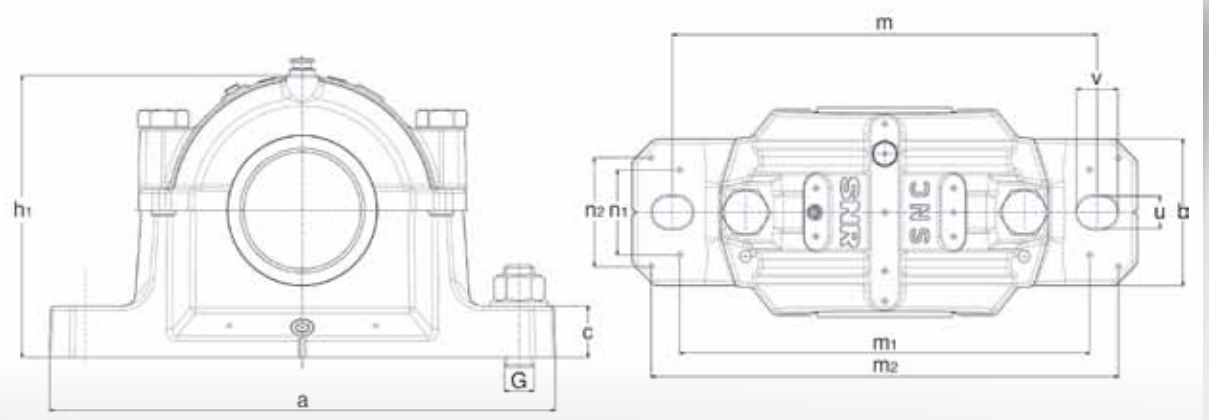
Felt strip seal
SC..FS



Felt strip seal + V-Ring
SC..FS V..A

	Housing	Seal[1]	V-Ring [2]	Cover	w1	l1	l2	l3	Regulation disc	Rolling bearing	Location ring
					[mm]						2x per housing
	SNC 205	SC205DS	V30A	SC506-605EC	17	89	143	85	RDC205	1205	FR52x5
		SC205FS			18,5					2205	FR52x3,5
		SC205LA			18,5					22205	FR52x3,5
		SC205TA									
	SNC 206-305	SC507DS	V30A	SC507-606EC	18	89	143	95	RDC305	1305	FR62x7,5
		SC305FS			21,5					2305	FR62x4
		SC305SV			18					21305	FR62x7,5
		SC305LA									
		SC305TA									
	SNC 206-305	SC206DS	V35A	SC507-606EC	18,5	89	143	95	RDC206	1206	FR62x8
		SC206FS			20,5					2206	FR62x6
		SC206SV			20,5					22206	FR62x6
		SC206LA									
		SC206TA									
	SNC 507-606	SC206DS	V35A	SC507-606EC	20	93	147	100	RDC306	1306	FR72x7,5
		SC206FS			24					2306	FR72x3,5
		SC206SV			20					21306	FR72x7,5
		SC206LA									
		SC206TA									
	SNC 207-306	SC207DS	V45A	SC509EC	20	94	148	104	RDC207	1207	FR72x8,5
		SC207FS			22					2207	FR72x5,5
		SC207SV			22,5					22207	FR72x5,5
		SC207LA									
		SC207TA									
	SNC 208-307	SC510DS	V45A	SC510-608EC	21	94	151	107	RDC307	1307	FR80x9
		SC307FS			26					2307	FR80x4
		SC307SV			21					21307	FR80x9
		SC307LA									
		SC307TA									

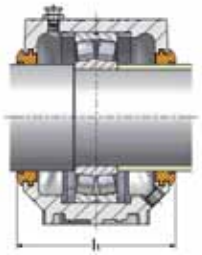
Dimension table



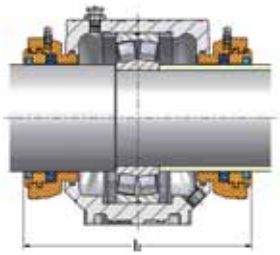
d	TYP	d1	D	a	b	c	g	h	l	m	G	u	v	h1	m1	n2	m2	n1	n3	Weight	
Shaft [mm]	Housing dimensions [mm]																			kg	
40	SNC 208	50	80	205	60	25	39	60	85	170	M12	15	20	107	160	44	188	34	50	3,1	
	SNC 308	50	90	205	60	25	41	60	90	170	M12	15	20	113	160	44	188	34	53	3,4	
45	SNC 209	55	85	205	60	25	30	60	85	170	M12	15	20	110	160	44	188	34	44	3,1	
	SNC 309	55	100	255	70	28	44	70	95	210	M16	18	24	127	200	49	234	40	56	5,1	
50	SNC 210	60	90	205	60	25	41	60	90	170	M12	15	20	113	160	44	188	34	53	3,5	
	SNC 310	60	110	255	70	30	48	70	105	210	M16	18	24	133	200	54	234	40	64	5,4	

1) Seals must be ordered for each side of the housing.
2) Optional V-ring available for felt strip seal (FS).

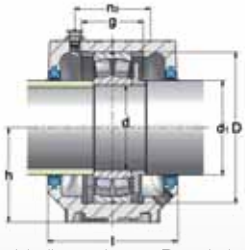
V-ring seal + Cover
SC..SV SC..EC



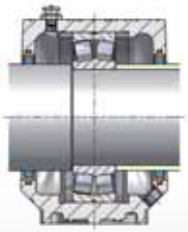
Labyrinth seal
SC..LA



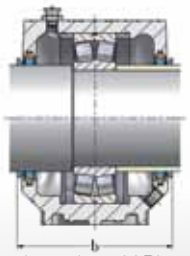
Taconite seal
SC..TA



Double lip seal + Regulation disc
SC..DS RDC



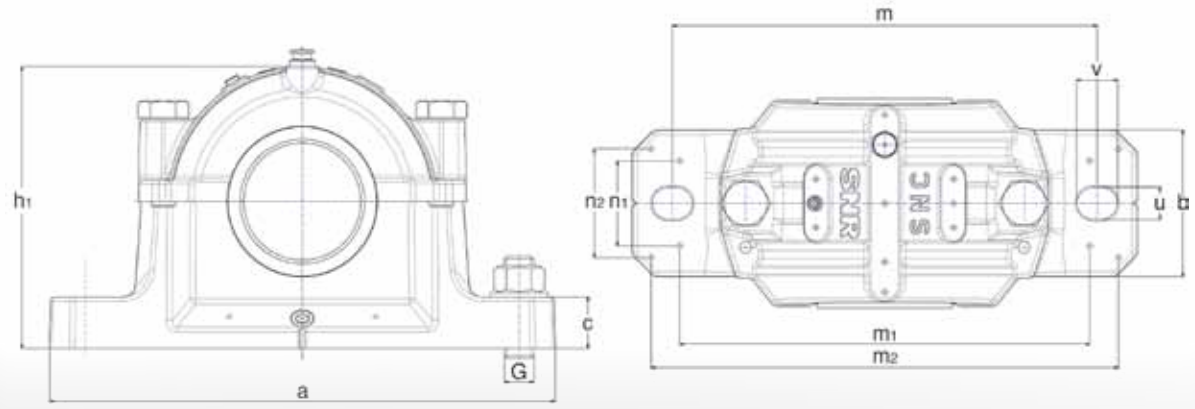
Felt strip seal
SC..FS



Felt strip seal + V-Ring
SC..FS V..A

	Housing	Seal[1]	V-Ring [2]	Cover	w1	l1	l2	l3	Regulation disc	Rolling bearing	Location ring
					[mm]						2x per housing
	SNC 208-307	SC208DS SC208FS SC208SV SC208LA SC208TA	V50A	SC510-608EC	20,5 23 23	97	151	107	RDC208	1208 2208 22208	FR80x10,5 FR80x8 FR80x8
	SNC 510-608	SC208DS SC208FS SC208SV SC208LA SC208TA	V50A	SC510-608EC	23 28 23 28	100	154	112	RDC308	1308 2308 21308 22308	FR90x9 FR90x4 FR90x9 FR90x4
	SNC 209	SC209DS SC209FS SC209SV SC209LA SC209TA	V55A	SC511-609EC	22 24 24	97	151	107	RDC209	1209 2209 22209	FR85x5,5 FR85x3,5 FR85x3,5
	SNC 511-609	SC209DS SC209FS SC209SV SC209LA SC209TA	V55A	SC511-609EC	25 30,5 25 30,5	106	160	117	RDC309	1309 2309 21309 22309	FR100x9,5 FR100x4 FR100x9,5 FR100x4
	SNC 210-308	SC210DS SC210FS SC210SV SC210LA SC210TA	V60A	SC512-610EC	23,5 25 25	102	156	112	RDC210	1210 2210 22210	FR90x10,5 FR90x9 FR90x9
	SNC 512-610	SC210DS SC210FS SC210SV SC210LA SC210TA	V60A	SC512-610EC	27 23,5 27 33,5	116	170	127	RDC310	1310 2310 21310 22310	FR110x10,5 FR110x4 FR110x10,5 FR110x4

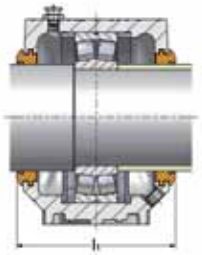
Dimension table



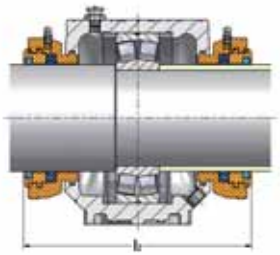
d	TYP	d1	D	a	b	c	g	h	l	m	G	u	v	h1	m1	n2	m2	n1	n3	Weight	
Shaft [mm]	Housing dimensions [mm]																			kg	
55	SNC 211	65	100	255	70	28	44	70	95	210	M16	18	24	127	200	49	234	40	56	5,0	
	SNC 311	65	120	275	80	30	51	80	110	230	M16	18	24	148	220	58	252	48	63	7,0	
60	SNC 212	70	110	255	70	30	48	70	105	210	M16	18	24	133	200	54	234	40	64	5,3	
	SNC 312	70	130	280	80	30	56	80	115	230	M16	18	24	155	220	58	257	48	72	7,3	
65	SNC 213	75	120	275	80	30	51	80	110	230	M16	18	24	148	220	58	252	48	63	6,7	
	SNC 313	75	140	315	90	32	58	95	120	260	M20	22	28	175	252	66	288	52	72	10,4	

1) Seals must be ordered for each side of the housing.
2) Optional V-ring available for felt strip seal (FS).

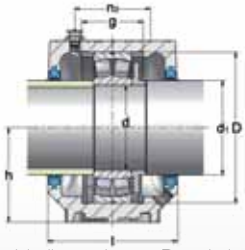
V-ring seal + Cover
SC..SV SC..EC



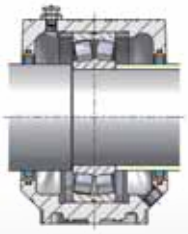
Labyrinth seal
SC..LA



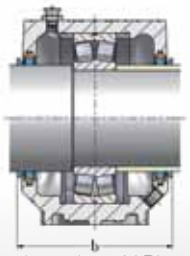
Taconite seal
SC..TA



Double lip seal + Regulation disc
SC..DS RDC



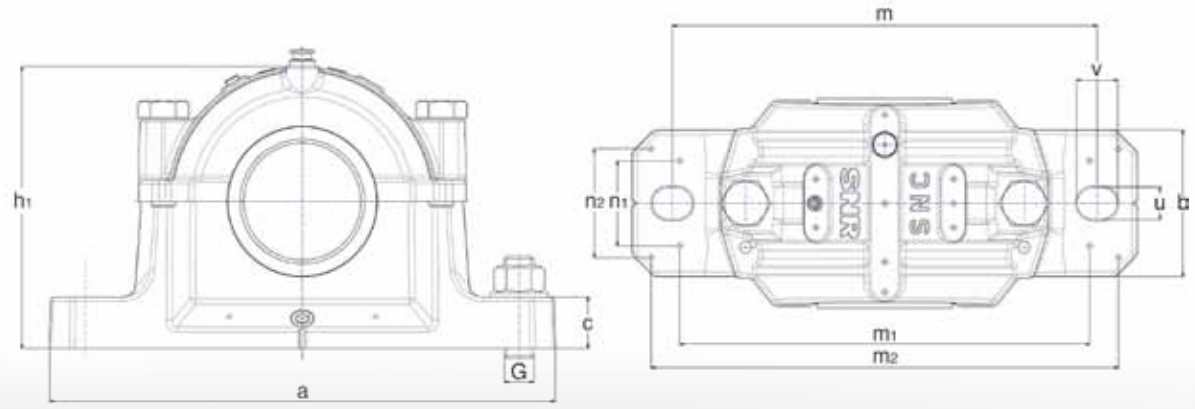
Felt strip seal
SC..FS



Felt strip seal + V-Ring
SC..FS V..A

	Housing	Seal[1]	V-Ring [2]	Cover	w1	l1	l2	l3	Regulation disc	Rolling bearing	Location ring
					[mm]						2x per housing
	SNC 211-309	SC211DS SC211FS SC211SV SC211LA SC211TA	V65A	SC513-611EC	25 27 27	107	162	117	RDC211	1211 2211 22211	FR100x11,5 FR100x9,5 FR100x9,5
	SNC 513-611	SC211DS SC211FS SC211SV SC211LA SC211TA	V65A	SC513-611EC	29 36 29 36	121	176	132	RDC311	1311 2311 21311 22311	FR120x11 FR120x4 FR120x11 FR120x4
	SNC 212-310	SC212DS SC212FS SC212SV SC212LA SC212TA	V70A	SC515-612EC	26 29 29	119	174	132	RDC212	1212 2212 22212	FR110x13 FR110x10 FR110x10
	SNC 515-612	SC212DS SC212FS SC212SV SC212LA SC212TA	V70A	SC515-612EC	30,5 38 30,5 38	128	183	142	RDC312	1312 2312 21312 22312	FR130x12,5 FR130x5 FR130x12,5 FR130x5
	SNC 213-311	SC213DS SC213FS SC213SV SC213LA SC213TA	V75A	SC516-613EC	27 31 31	125	180	137	RDC213	1213 2213 22213	FR120x14 FR120x10 FR120x10
	SNC 516-613	SC213DS SC213FS SC213SV SC213LA SC213TA	V75A	SC516-613EC	32 39,5 32 39,5	135	190	147	RDC313	1313 2313 21313 22313	FR140x12,5 FR140x5 FR140x12,5 FR140x5

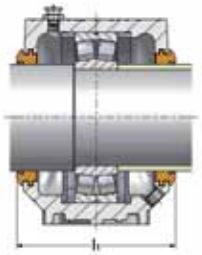
Dimension table



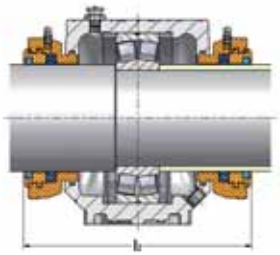
d	TYP	d1	D	a	b	c	g	h	l	m	G	u	v	h1	m1	n2	m2	n1	n3	Weight	
Shaft [mm]	Housing dimensions [mm]																			kg	
70	SNC 214	80	125	275	80	30	44	80	115	230	M16	18	23	154	220	58	252	48	66	7,6	
	SNC 314	80	150	320	90	32	61	95	125	260	M20	22	28	183	252	66	292	52	76	10,2	
75	SNC 215	85	130	280	80	30	56	80	115	230	M16	18	24	155	220	58	257	48	72	7,0	
	SNC 315	85	160	345	100	35	65	100	140	290	M20	22	28	192	280	74	319	58	80	13,5	
80	SNC 216	90	140	315	90	32	58	95	120	260	M20	22	28	175	252	66	288	52	72	9,5	
	SNC 316	90	170	345	100	35	68	112	145	290	M20	22	28	212	280	70	317	58	88	15,6	

1) Seals must be ordered for each side of the housing.
2) Optional V-ring available for felt strip seal (FS).

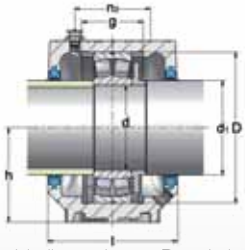
V-ring seal + Cover
SC..SV SC..EC



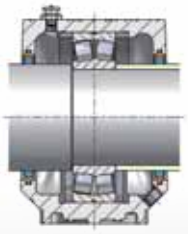
Labyrinth seal
SC..LA



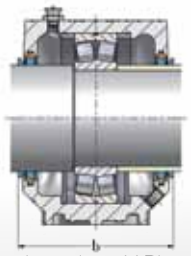
Taconite seal
SC..TA



Double lip seal + Regulation disc
SC..DS RDC



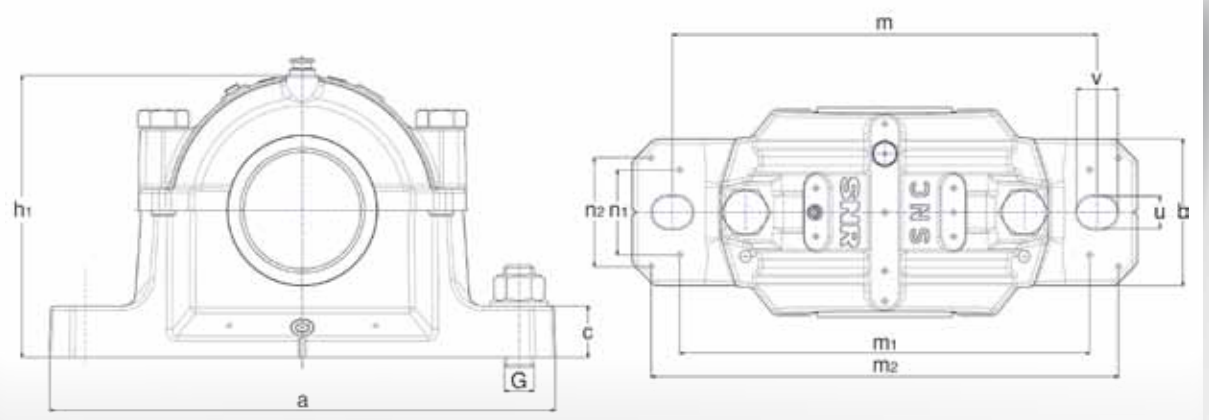
Felt strip seal
SC..FS



Felt strip seal + V-Ring
SC..FS V..A

	Housing	Seal[1]	V-Ring [2]	Cover	w1	l1	l2	l3	Regulation disc	Rolling bearing	Location ring
					[mm]						2x per housing
	SNC 214	SC214DS	V80A	SC517EC	28,5	130	187	142	RDC214	1214	FR125x10
		SC214FS			32					2214	FR125x6,5
		SC214SV			32					22214	FR125x6,5
		SC214LA									
		SC214TA									
	SNC 517	SC214DS	V80A	SC517EC	34	140	197	152	RDC314	1314	FR150x13
		SC214FS			42					2314	FR150x5
		SC214SV			34					21314	FR150x13
		SC214LA			42					22314	FR150x5
		SC214TA									
	SNC 215-312	SC215DS	V85A	SC518-615EC	29	132	192	142	RDC215	1215	FR130x15,5
		SC215FS			32					2215	FR130x12,5
		SC215SV			32					22215	FR130x12,5
		SC215LA									
		SC215TA									
	SNC 518-615	SC215DS	V85A	SC518-615EC	35	157	217	167	RDC315	1315	FR160x14
		SC215FS			44					2315	FR160x5
		SC215SV			35					21315	FR160x14
		SC215LA			44					22315	FR160x5
		SC215TA									
	SNC 216-313	SC216DS	V90A	SC216-313EC	30,5	137	203	147	RDC216	1216	FR140x16
		SC216FS			34					2216	FR140x12,5
		SC216SV			34					22216	FR140x12,5
		SC216LA									
		SC216TA									
	SNC 519-616	SC316DS	V90A	SC519-616EC	37	159	216	172	RDC316	1316	FR170x14,5
		SC316FS			46,5					2316	FR170x5
		SC316SV			37					21316	FR170x14,5
		SC316LA			46,5					22316	FR170x5
		SC316TA									

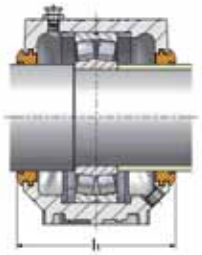
Dimension table



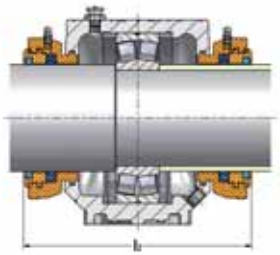
d	TYP	d1	D	a	b	c	g	h	l	m	G	u	v	h1	m1	n2	m2	n1	n3	Weight	
Shaft [mm]	Housing dimensions [mm]																			kg	
85	SNC 217	95	150	320	90	32	61	95	125	260	M20	22	28	183	252	66	292	52	76	9,8	
	SNC 317	95	180	380	110	40	70	112	160	320	M24	26	32	215	300	78	348	66	104	18,4	
90	SNC 218	100	160	345	100	35	65	100	140	290	M20	22	28	192	280	74	319	58	80	12,4	
	SNC 318	105	190	380	110	40	74	112	160	320	M24	26	32	220	300	78	348	66	104	18,5	
95	SNC 219	110	170	345	100	35	68	112	145	290	M20	22	28	212	280	70	317	58	88	15,6	
	SNC 319	110	200	410	120	45	80	125	175	350	M24	26	32	242	320	88	378	74	110	24,7	
100	SNC 220	115	180	380	110	40	70	112	160	320	M24	26	32	215	300	78	348	66	104	18,4	

1) Seals must be ordered for each side of the housing.
2) Optional V-ring available for felt strip seal (FS).

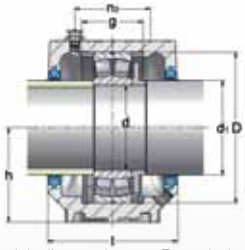
V-ring seal + Cover
SC..SV SC..EC



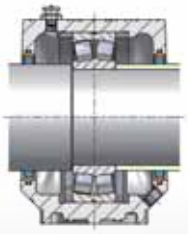
Labyrinth seal
SC..LA



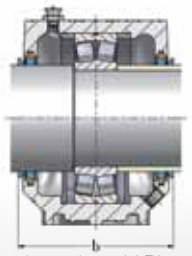
Taconite seal
SC..TA



Double lip seal + Regulation disc
SC..DS RDC



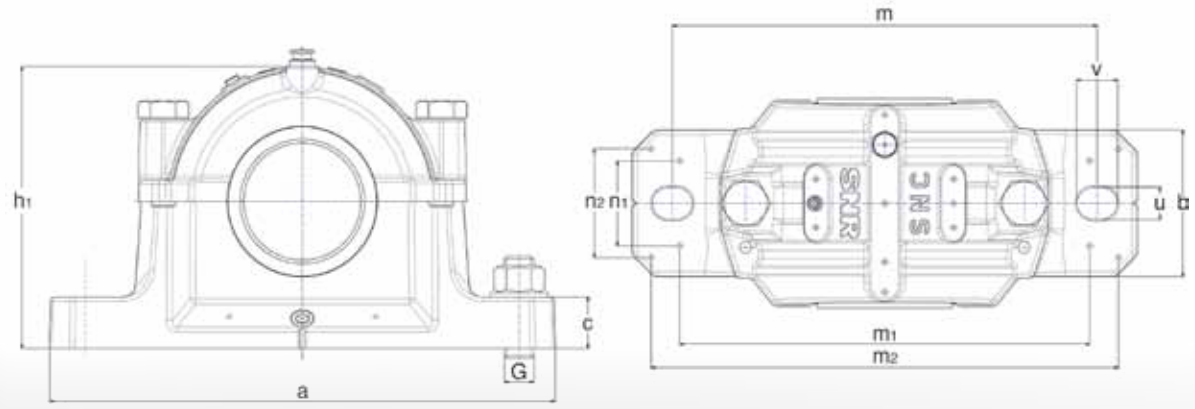
Felt strip seal
SC..FS



Felt strip seal + V-Ring
SC..FS V..A

	Housing	Seal[1]	V-Ring [2]	Cover	w1	l1	l2	l3	Regulation disc	Rolling bearing	Location ring
					[mm]						2x per housing
	SNC 217-314	SC217DS SC217FS SC217SV SC217LA SC217TA	V95A	SC217-314EC	33,5 37,5 37,5	142	208	152	RDC217	1217 2217 22217	FR150x16,5 FR150x12,5 FR150x12,5
	SNC 520-617	SC317DS SC317FS SC317SV SC317LA SC317TA	V95A	SC520-617EC	40 49,5 40 49,5	174	238	187	RDC317	1317 2317 21317 22317	FR180x14,5 FR180x5 FR180x14,5 FR180x5
	SNC 218-315	SC218DS SC218FS SC218SV SC218LA SC218TA	V100A	SC218-315EC	35,5 40,5 40,5 46,75	157	214	167	RDC218	1218 2218 22218 23218	FR160x17,5 FR160x12,5 FR160x12,5 FR160x6,25
	SNC 318-618	SC318DS SC318FS SC318SV SC318LA SC318TA	V110A	SC318-618EC	42 52,5 42 52,5	174	231	191	RDC318	1318 2318 21318 22318	FR190x15,5 FR190x5 FR190x15,5 FR190x5
	SNC 519-616	SC219DS SC219FS SC219SV SC219LA SC219TA	V110A	SC519-616EC	36,5 42 42	159	216	176	RDC219	1219 2219 22219	FR170x18 FR170x12,5 FR170x12,5
	SNC 522-619	SC319DS SC319FS SC319SV SC319LA SC319TA	V110A	SC522-619EC	43 54 43 54	189	246	206	RDC319	1319 2319 21319 22319	FR200x17,5 FR200x6,5 FR200x17,5 FR200x6,5
	SNC 520-617	SC220DS SC220FS SC220SV SC220LA SC220TA	V120A	SC520-617EC	38,5 44,5 44,5 51,65	177	233	191	RDC220	1220 2220 22220 23220	FR180x18 FR180x12 FR180x12 FR180x4,85

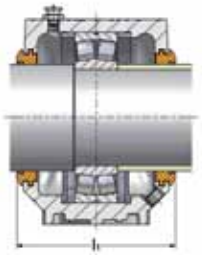
Dimension table



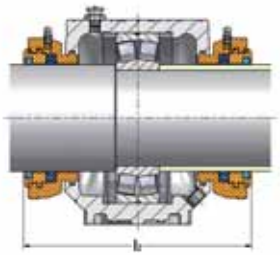
d	TYP	d1	D	a	b	c	g	h	l	m	G	u	v	h1	m1	n2	m2	n1	n3	Weight	
Shaft [mm]	Housing dimensions [mm]																			kg	
100	SNC 320	115	215	410	120	45	86	140	185	350	M24	26	32	271	330	88	378	74	122	30,0	
110	SNC 222	125	200	410	120	45	80	125	175	350	M24	26	32	242	320	88	378	74	110	24,7	
120	SNC 224	135	215	410	120	45	86	140	185	350	M24	26	32	271	330	88	378	74	122	30,0	
130	SNC 226	145	230	445	130	50	90	150	190	380	M24	28	35	290	370	92	414	80	122	36,6	
140	SNC 228	155	250	500	150	50	98	150	205	420	M30	35	42	302	400	108	458	92	128	42,5	
150	SNC 230	165	270	530	160	60	106	160	220	450	M30	35	42	323	430	116	486	100	140	55,2	
160	SNC 232	175	290	550	160	60	114	170	235	470	M30	35	42	344	450	116	506	100	155	63,0	

1) Seals must be ordered for each side of the housing.
2) Optional V-ring available for felt strip seal (FS).

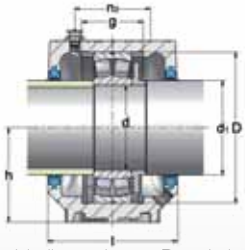
V-ring seal + Cover
SC..SV SC..EC



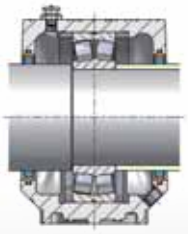
Labyrinth seal
SC..LA



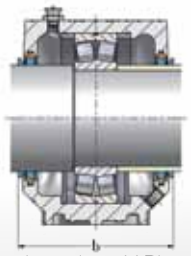
Taconite seal
SC..TA



Double lip seal + Regulation disc
SC..DS RDC



Felt strip seal
SC..FS



Felt strip seal + V-Ring
SC..FS V..A

	Housing	Seal[1]	V-Ring [2]	Cover	w1	l1	l2	l3	Regulation disc	Rolling bearing	Location ring
					[mm]						2x per housing
	SNC 524-620	SC320DS SC320FS SC320SV SC320LA SC320TA	V120A	SC524-620EC	45 58 45 58	200	256	216	RDC320	1320 2320 21320 22320	FR215x19,5 FR215x6,5 FR215x19,5 FR215x6,5
	SNC 522-619	SC222DS SC222FS SC222SV SC222LA SC222TA	V130A	SC522-619EC	41,5 49 49 57,4	193	249	206	RDC222	1222 2222 22222 23222	FR200x21 FR200x13,5 FR200x13,5 FR200x5,1
	SNC 524-620	SC224DS SC224FS SC224SV SC224LA SC224TA	V140A	SC524-620EC	53,5 62,5	201	261	216	RDC224	22224 23224	FR215x14 FR215x5
	SNC 226-526	SC226DS SC226FS SC226SV SC226LA SC226TA	V150A	SC226-526EC	57,5 65,5	201	261	221	RDC226	22226 23226	FR230x13 FR230x5
	SNC 228-528	SC228DS SC228FS SC228SV SC228LA SC228TA	V160A	SC228-528EC	60,5 70,5	221	285	241	RDC228	22228 23228	FR250x15 FR250x5
	SNC 230-530	SC230DS SC230FS SC230SV SC230LA SC230TA	V170A	SC230-530EC	65,0 76,5	236	300	256	RDC230	22230 23230	FR270x16,5 FR270x5
	SNC 232-532	SC232DS SC232FS SC232SV SC232LA SC232TA	V180A	SC232-532EC	70,5 82,5	251	317	271	RDC232	22232 23232	FR290x17 FR290x5

Part 4
Other ranges: plummer blocks & one-piece bearing units

Grease lubrication

SD 31 - Two-part plummer block, large size

- Suited to spherical roller bearings
- Economical
- Suited to heavy machine constructions, roller-crushers, conveyor augers and other machines operating in harsh environments
- Shaft diameter: 150 mm - 400 mm

SPW/SFCW – One-piece housing for heavy loads

- Suited for rugged industry with tough environmental conditions
- Anti-corrosion treatment on components
- Can be used for the quick replacement of patented inserts
- Equipped with sealed spherical roller bearings
- Reduced downtime and increased productivity
- The SPW range is interchangeable with SN housings
- Shaft diameter: 50 mm - 140 mm

Double & triple bearing housings ZLG / DLG

- For two or three bearing arrangements
- Grease lubrication
- Adapted for high operating speeds (industrial ventilators)
- High-precision shaft alignment
- Felt seal with additional V-ring
- Easy to install
- ZLG shaft diameter: 30 mm – 120 mm / DLG: 70 mm - 120 mm

Plummer block units for special applications
722500, F11200, TVN, TN

- Compact sealed bearing in grey cast iron
- TVN: for continuous or intermittent operating temperatures of between +200°C and +350°C.
- Suitable for critical environments: hot and humid / hot and dry
- Construction of calcium silicate bricks, clinker manufacturing
- TVN/TN: pillow bricks, can be installed in all positions
- TVN shaft diameter: 20 mm – 75 mm / TN: 20 mm - 60 mm
- F11200 / 722500: bearings with attachment flange
- F11200 shaft diameter: 20 mm – 50 mm / 722500: 20 mm - 100 mm

Oil lubrication

ZLOE - Double bearing housing

- Equipped with two radial contact ball bearings or a combination of a radial contact ball bearing with a cylindrical roller bearing
- Suitable for applications with high load capacities combined with high temperatures
- Adapted for high speed applications (industrial ventilators)
- Manufacturing process ensures accurate bearing positioning for reduced operating noise
- Easy mounting of the bearings unit on the fixing surface
- Efficient and low-friction seal thanks to the labyrinth system
- The lubricant supply can be upgraded to a circulated system
- Shaft diameter : 75 mm - 120 mm

SNOE - Split plummer block-units

- Suitable for spherical roller bearings
- Excellent for high operating speeds and loads
- Housing Material: EN-GJS for increased strength and torsional rigidity
- Internal oil distribution via a oil pick up ring
- Labyrinth sealing system
- Equipped with an oil-level indicator
- As an option, oil circulation can be used. Oil cooling or pre-heating conduits can be supplied
- Excellent heat dissipation
- Fields of application: industrial fans, hammer crushers, stone crushers
- Shaft diameter: 70 to 260 mm (the largest standard oil-lubricated housing available on the market)

SNOL - Split Plummer Block (compact version)

- Suitable for spherical roller bearings
- Low friction labyrinth sealing system
- SNOL bearings can replace the grease-lubricated units form the SN series. This may be necessary in the following cases:
  - Higher operating rotation speed
  - Higher operating temperature
  - Extended service life
  - Longer maintenance intervals
- Equipped with oil-level indicator
- Shaft diameter: 60 mm - 140 mm

ULTAGE spherical roller bearings

The concept of ultimate performance

PREMIER, the previous generation of spherical roller bearings, used and appreciated the world over, has amply demonstrated its high performance, technical quality and long service life… The latest generation of premium bearings, the ULTAGE range, now offers you even more when it comes to performance.

ULTAGE®

Born of the association of two concepts («ULTIMATE» and «STAGE»), the ULTAGE label marks out our standardized range of Spherical Roller bearings as offering you optimised performance as standard: longer service life, faster rotation speeds, reduced usage costs and an improved contribution to environmental protection.

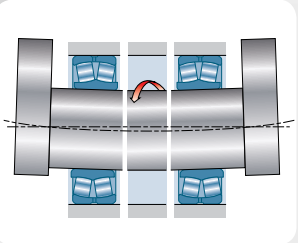
Performance at all levels

To meet your expectations, a great deal of research work has been carried out on the intrinsic components of ULTAGE bearings. These include:

- selecting better quality steel
- applying heat treatment to endow the bearings with exceptional properties.
- a new internal bearing design: increased load capacity, increased speeds, cages reinforced by specific surface treatment.
- developments with regard to seal technology, etc. At all levels, quality remains the byword, enabling your machinery to achieve its optimum performance.

Tilt Capability

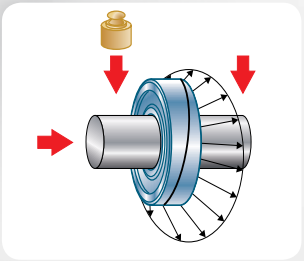
NTN-SNR ULTAGE spherical roller bearings consist of:
- an outer ring with spherical raceway,
- two rows of symmetrical spherical rollers held in cages,
- an inner ring with a cylindrical or tapered bore.

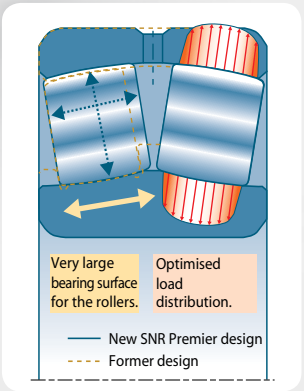


The rollers move freely in the spherical raceway of the outer ring. This allows the bending of the shaft and alignment faults on the bearing seats to be compensated for.

Very high load capacities

The internal design of double-row spherical roller bearings enables them to withstand very high radial loads and axial loads in both directions.





NTN-SNR ULTAGE spherical roller bearings are designed without any central shoulder section or floating guide ring, for supporting the heaviest of loads thanks to a maximum number of long, large-diameter rollers.
In association with the high-performance materials, optimised surfaces and surface treated cages, the precise osculation ratios between the rolling elements and the raceways that uniformly distribute the stresses in the bearing enable significant improvements to be made to the service life expectancy.

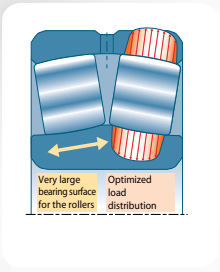
Ultimately, these optimised specifications of NTN-SNR ULTAGE spherical roller bearings make it possible to design machines that are more compact and more reliable.

NTN SNR "Premium Quality" spherical roller bearings

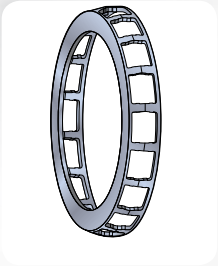
You are already familiar with generation E:

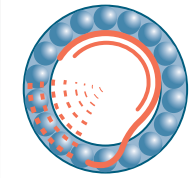
- Optimised design
- No central rib (except series 240xx and 241xx)
- More, larger, longer rollers
- New cages
- Increased load capacities

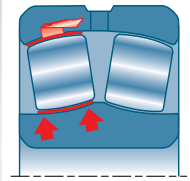
Now you can benefit from all the benefits of the ULTAGE generation

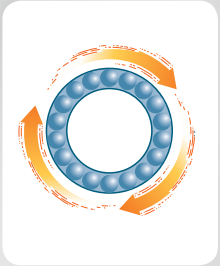


Surface optimization

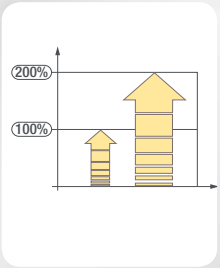

Steel cages with surface treatment


Noise reduction

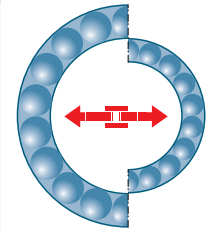

Reduced friction torique


Increased operating speeds


Seals



Increased service life (x2)


Improved performances > Reduced dimensions


Reduced power consumption

Reduced operating costs

Designed for applications in extremely harsh operating environments (steelworks, paper mills, wind farms, mines and quarries, etc.), spherical roller bearings need to be able to withstand:

- high loads and temperatures
- major misalignments
- polluted atmospheres
- impacts, vibrations.

All these conditions call for exceptional mechanical qualities. The NTN-SNR engineers and scientists therefore work tirelessly on:

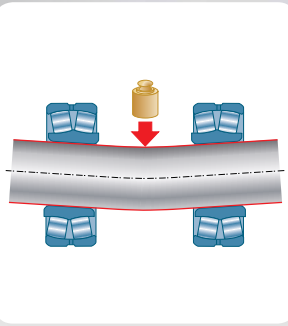
- materials selection, heat treatments, surface treatments
- product design
- the kinematics of bearings when combining the effects of lubrication with reduced friction, wear & tear and pollution
- manufacturing technologies and the improvement of the manufacturing processes…

All this effort generates spectacular results.
Thanks to their dynamic load capacities, among the highest on the market, and the optimisation of all constituent parts of the bearing, NTN-SNR ULTAGE spherical roller bearings allow you to benefit from PREMIUM performance:

- double the service life compared to a standard solution
- improved reliability for your installations
- reduced costs of use.

ULTAGE, your satisfaction first and foremost

Greater load capacity for your applications



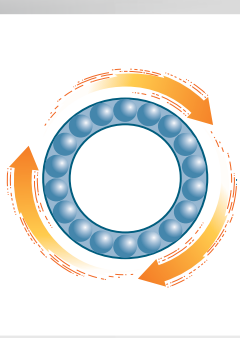
With their optimised internal geometry and surfaces, produced using highperformance materials and with a maximum number of long, large-diameter rolling elements, NTN-SNR ULTAGE spherical roller bearings guarantee you:

- the best load capacity levels on the market,
- increased operating times.

Among the benefits deriving directly from this:

- longer intervals between maintenance operations,
- size reduction with the possibility, under like-for-like operating conditions, and as standard, of using a technical solution with smaller bearings.

Optimised ROI from your Machines



The optimised internal design offers higher speeds thanks to reduced friction.
As a result, the service life of your machines is extended and the operating temperatures are kept lower.

For you this means:

- better returns from your machine pool
- lower maintenance costs
- reduced power consumption
- reduced lubricant consumption

A solution in compliance with the new environmental challenges

Reduced maintenance costs, less noise, less friction, reduced power consumption, reduced lubricant consumption for the sealed versions and longer service life… the use of NTN-SNR ULTAGE spherical roller bearings is synonymous with:

- less impact on the environment
- less power consumption

Your satisfaction - our priority at all times

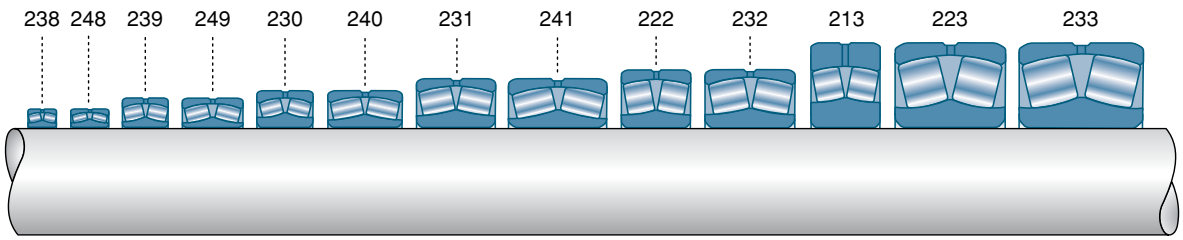
- «Premium» performance,
- Reduced Cost, Reduced Maintenance,
- Reduced environmental impact…

These are powerful and distinctive assets marking out the ULTAGE range, offering major benefits to guarantee your satisfaction.

Easy to identify

The NTN-SNR ULTAGE bearings keep the same standard designations (e.g., 22209EAW33). To make it easier to identify your high-performance bearings, each bearing and its box are endorsed with the ULTAGE.

The NTN-SNR range of spherical roller bearings



Description

NTN-SNR proposes a full range of spherical roller bearings with bores from 25 to 1800 mm, available with cylindrical or tapered bore. Most tapered bore bearings require the use of an adapter or withdrawal sleeve for mounting on the shaft. Most bearings are equipped with a groove and lubrication holes in the outer ring. Bearings with metal cages can operate at temperatures of up to +200°C. The dimensional stability of the steel is guaranteed by means of specific heat treatment. These bearings are available in a wide range of series designed to cater to the broadest spectrum of usages depending on your requirements in terms of loads, speeds and dimensions.

Part 5
Experts & tools services

Mounting & dismounting tools

Experts & Tools

Mounting and dismounting a bearing: these essential stages determine the life span of the installation as well as its correct operation.

Cold mounting

The tool case for a quick and accurate bearing fitting in complete safety.

Hot mounting

Induction heating: Practical, simple, safe, environmentally-friendly.

Hydraulic mounting

Precise, effortless with a revolutionary nut, always ready for use thanks to its “back & forth” feature.

Dismounting tools

Hydraulic or mechanical dismounting:
All kinds of pullers for a safe and clean operation whatever the position and the size of the bearing.

Instruments

Simple, safe and precise temperature monitoring of your machines with the infrared laser targeting thermometer.

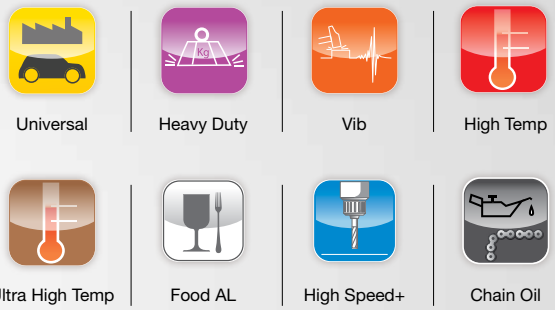
And more tools for bearing fitting and handling…

Lubrication: LUBSOLUTION

LUB'SOLUTIONS: we can provide support for your lubrication project from design to installation offering lubricants specially selected for your applications, single-point or multi-point lubrication systems according to your process size and requirements.

Greases

Designed for the demands of your application to ensure your bearings will operate at their best.



Automatic single-point lubricators

We have the right lubricator for all your applications thanks to our wide range of technologies combined with our top-quality bearing lubricants

Automatic Multi-Single Points POLIPUMP

If you have several points close to one another that need lubricating, the POLIPUMP is the lubricating system you need. Available in 12, 24 or 35 outlet versions, offering an independent output of between 0.01 cc and 0.13 cc/cycle for each point, 80 bar maximum pressure and a large grease tank, the POLIPUMP is a widespread easy-to-use lubricating system.

Lubrication system design and set-up

LUB'SOLUTIONS also provide experts to support you in your turnkey lubrication projects, from design to set-up. Lubrication has never been so easy!

Services

Experts & Tools

The NTN-SNR team of experts can support your organisation to obtain the best performance from your bearings and your operations

Training

Improve the skills of your maintenance technicians and designers in bearing selection and maintenance.
Whether at our training school or on your premises with our BEBOX van, we can provide made-to-measure training courses covering both theory and practice, because all customers are different.
Our teaching methods make the difference!

Bearing diagnosis

Let our experts determine the causes of your bearing failures in our lab or on your site. Our reactivity and advice can provide the keys to your improvements.

Bearing reconditioning & Machine tool spindle repair

Have your industrial bearings reconditioned by a company used to renovating aircraft jet engine & bullet train bearings.

Technical assistance for bearings and lubrication systems

Contact our specialists to organize your maintenance work: mounting and dismantling bearings, manufacturing, maintenance and extension of lubricating systems, shaft alignment using the laser technique. With BEBOX, our mobile training concept, we are always there for you!

Organization of maintenance system

Benefit from an unbiased assessment of your maintenance organization system by our industrial maintenance experts. Boost your productivity with the action plan proposed by NTN-SNR

Tool rental

Experts & Tools offers a wide range of large bearing maintenance tools for rent: induction heaters, hydraulic nuts, pumps…

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