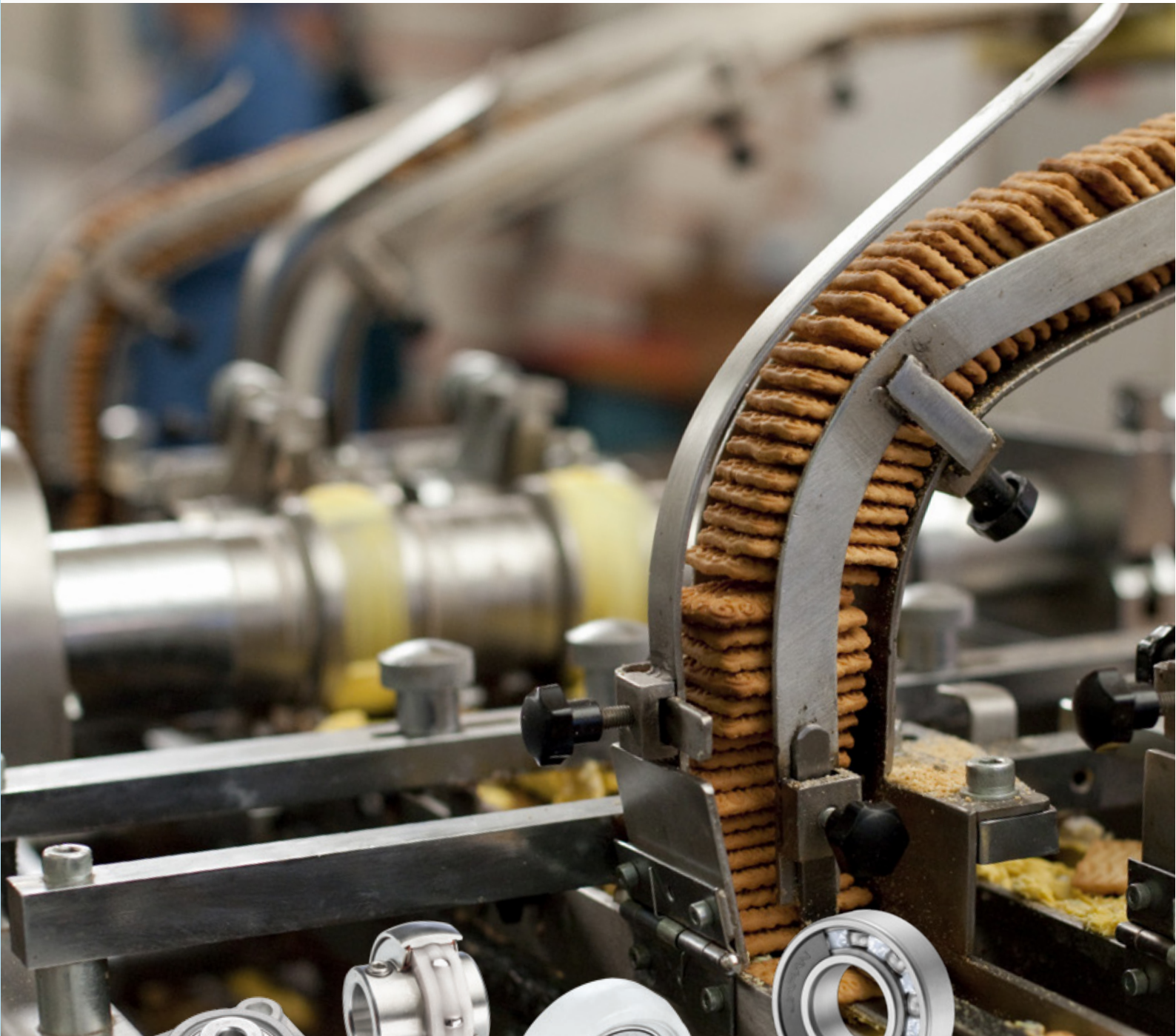




SENTINEL SERIES SOLID LUBRICATION FOR THE FOOD-PROCESSING INDUSTRY



SENTINEL
SERIES

INNOVATION DRIVING YOUR PRODUCTION

Movement. It is constantly changing. It is analysed, brought under control, guided and mastered with the aim of deriving maximum benefit. It is more than merely a concept. It is the very essence of our commitment, namely designing and innovating to deliver the perfect solutions to the issues and constraints of today and tomorrow.

There are thousands of us around the world masterminding and developing solutions to raise the bar on your production performance. Our world-leading brands (NTN, BCA, BOWER and SNR) are marketed worldwide and deliver the best-fit solutions for working together and building a more environmentally-friendly society. Follow our lead and use interaction, anticipation and adaptation as the keys to guiding and shaping the future of the manufacturing, automotive and aviation markets.

€ 5.4 BILLION
turnover*

24,199
employees*

The local service of an international partner



118
Sales
offices

73
Production
sites

15
R&D
centres

* as of March 2020



YOUR CONSTRAINTS

HYGIENE STANDARDS:

High pressure washing: progressive disappearance of grease in the bearings

Grease leaks: risk of contaminating the product and deposits on the ground causing safety risks

MAINTENANCE:

Production downtime for intervention: re-lubrication or change of bearing units/bearings

ENVIRONMENTAL STANDARDS:

Taking into account the production impact: ISO 14001 compliance, respecting the CSR action plan, etc.

BUDGET CONSTRAINTS

Overconsumption of grease

Increase in the bearing purchase budget

High maintenance costs

Reduced productivity relating to operating stops



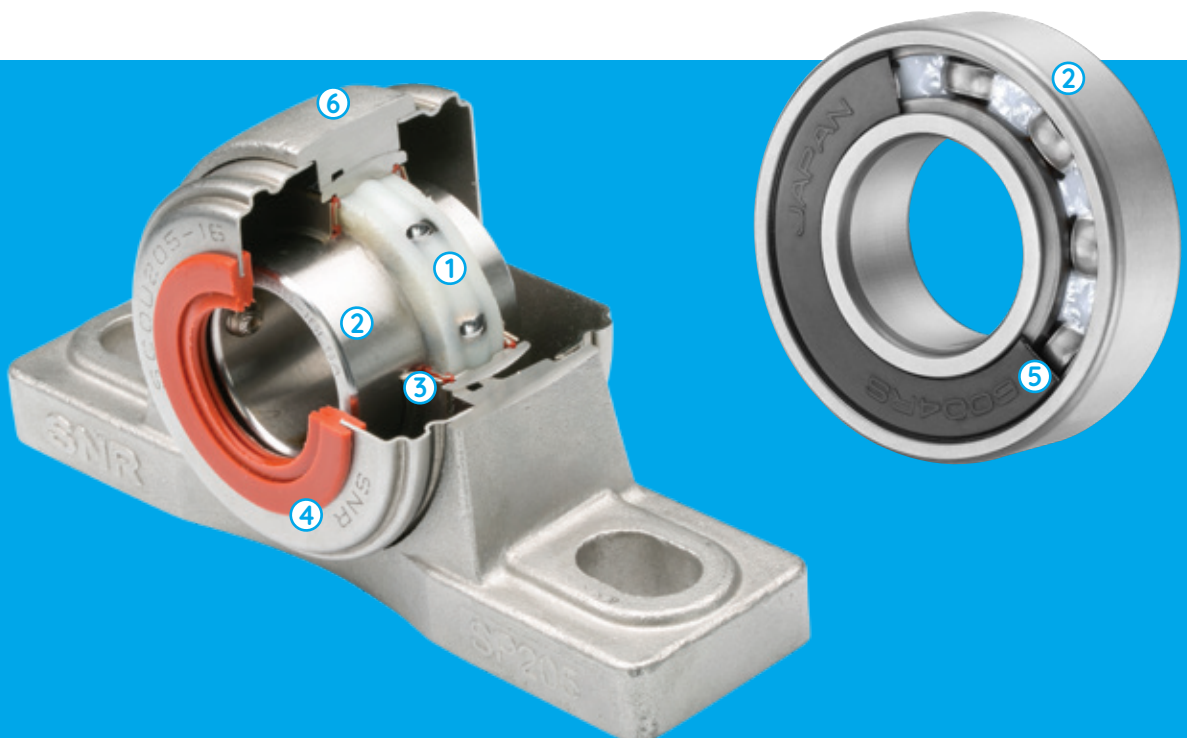


COMMERCIAL SUCCESS
in America since 2016. Winner
of the product design award
consecutively in 2018 and 2019.

OUR SOLUTION

SUPERIOR QUALITY AND OPTIMAL SAFETY FOR THE FOOD-PROCESSING MARKET

- ① **NTN food-grade solid lubricants (NSF H1 approved)**
 - Resistance of bearings to high pressure washing
 - A solution against grease leaks on the production line and on the floor
- ② **100% stainless steel**
 - Resistance to corrosion
 - Bearings and bearing units without any coating: no spalling that could contaminate production
- ③ **Insert sealing**
 - Combination of silicone seal and shield to create a second protection against water and any contamination
- ④ **Optional protective covers**
 - Barrier against contaminants and mould
 - Safety for manufacturing and maintenance personnel
- ⑤ **Reinforced nitrile seals to prevent any seepage**
 - Excellent resistance to outdoor pollution
- ⑥ **Bearings without re-lubrication system as inserts are greased for life with solid lubricant**
 - No maintenance intervention
 - Environmental commitment



YOUR ADVANTAGES



SAFETY

Total elimination of grease leaks at the self-aligning bearing units

- A pledge of seriousness in front of customers during workshop visits
- Solid lubricant resistant to high pressure washing
- NSF category H1 certification guaranteeing the safety of the product

PRODUCTIVITY

A profitable investment (TCO*)

- Increased service life of the bearing
- Significantly reduced maintenance interventions: lower production downtime
- Maintenance teams assigned to other tasks

ECO-RESPONSIBILITY

A true environmental approach

- Reduced grease and bearing consumption in the workshop
- Positive environmental impact

* TCO (Total Cost of Ownership)





SOLID LUBRICATION

Porous polymer matrix, our solid lubrication contains up to **3 to 4 times more oil than any standard grease.**

This solid lubricant cannot flow out from the bearing and ensures the cleanliness of your environment. Adaptable to all bearing types, this matrix is filled either:

100% of the free volume, known as “Full pack”

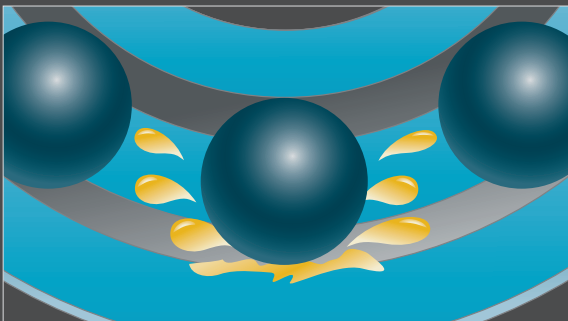
Example: SNR SUCFG1 LUBSOLID® stainless steel insert ball bearings

By packet between rolling housings, known as “Spot Pack”

Example: NTN SSN/LP09 “Solid Grease” stainless steel ball bearings

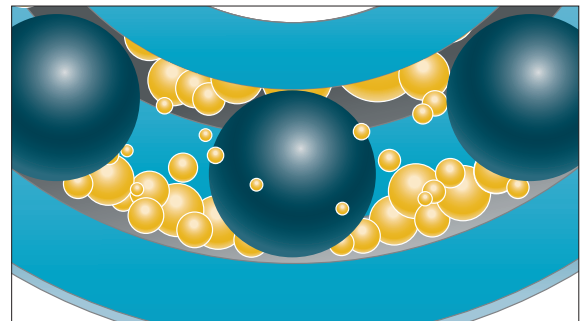
This reliability of lubrication enables to extend the service life of a bearing to its end without ever having to re-lubricate it, while significantly improving your budget and your environmental impact.

Operation with standard grease



Due to mechanical and thermal stress, the grease is laminated and driven out of the contact surface between the rolling housing and the raceway. This loss demands frequent re-lubrication (case of self-aligning bearing units).

Operation with solid lubrication



The solid lubrication cannot be ejected, it constantly supplies the bearing core with oil. This enables to eliminate all downtime and re-lubrication (case of self-aligning bearing units).

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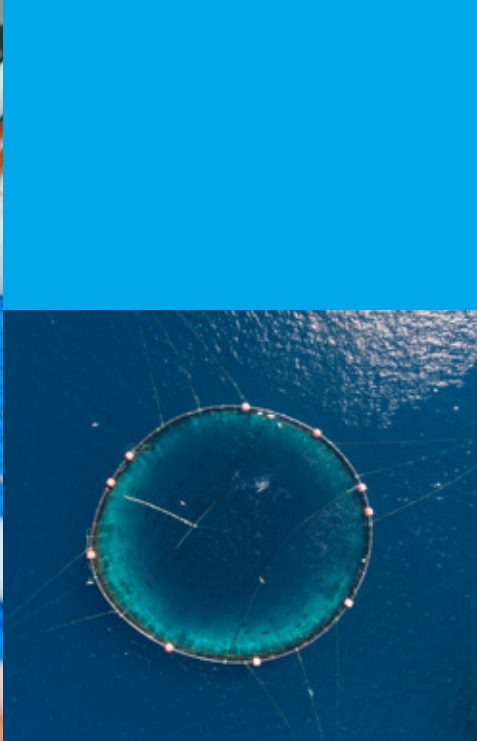
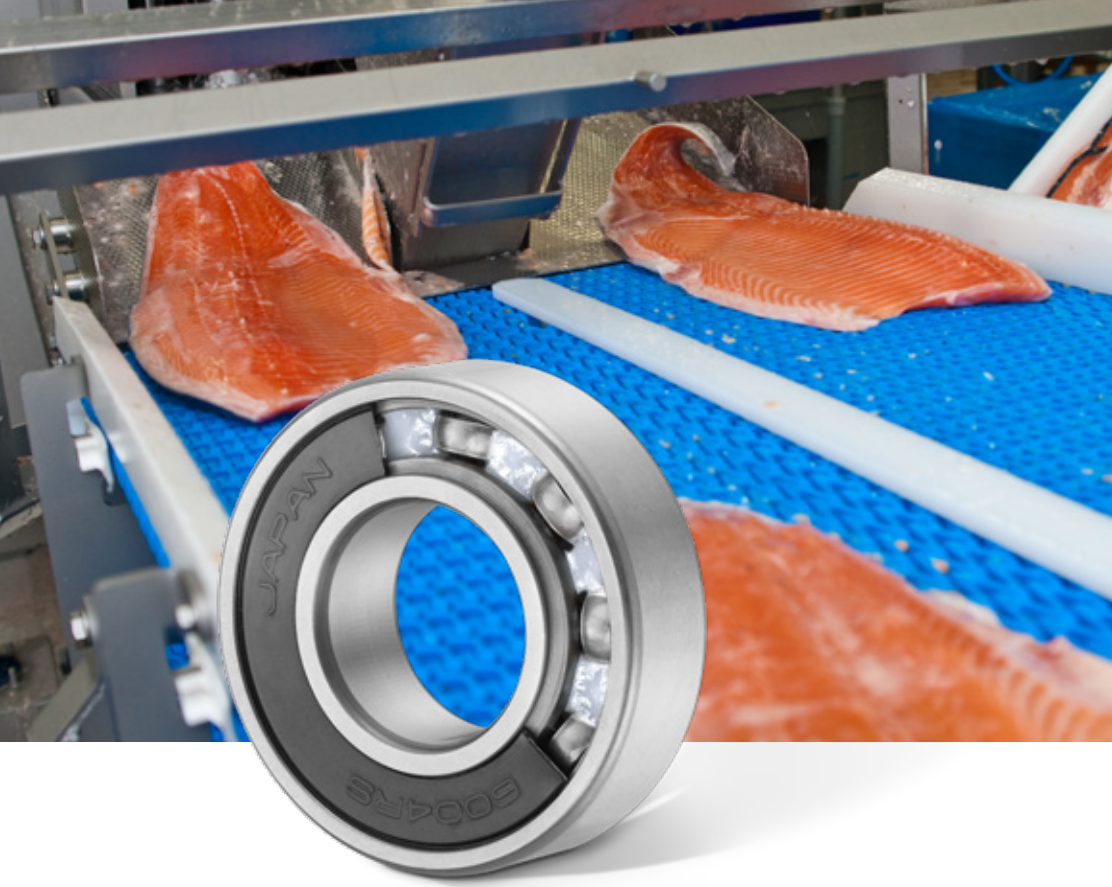
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SUCCESS STORY 32



NTN “SOLID GREASE” STAINLESS STEEL BALL BEARINGS

Protection/Rotation speed

TECHNICAL CHARACTERISTICS

- High-quality stainless steel 440C
- Reinforced elastomer seals (LL)
- “Solid Grease” lubrication NSF category H1 and FDA approved (US Food and Drug Administration)
- Bearing greased for life
- Available for 6000 and 6200 series (shaft diameters from 10 to 40 mm)

BENEFITS

- High rotation speed thanks to the “Spot Pack” application
- Very good resistance to corrosion
- Excellent resistance to outdoor pollution
- Keeps the production chain clean

ENVIRONMENTAL BONUS

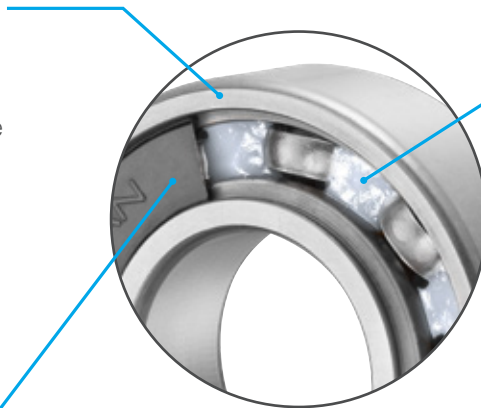
Significant savings in the number of bearings consumed and therefore also fewer maintenance interventions.



STEEL QUALITY AND SEALING

440C Stainless steel

- Resistance to corrosion
- 304C Stainless steel cage

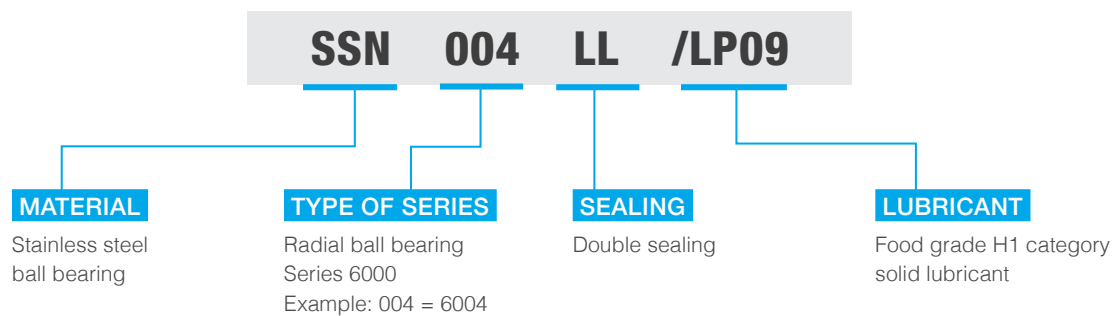


Solid Grease "Spot Pack"

Advantages of solid lubrication while maintaining high rotation speed

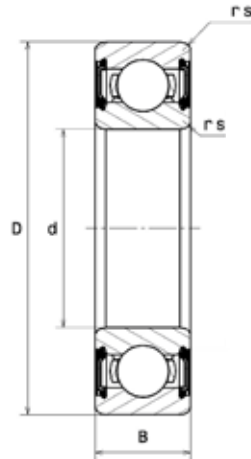
Nitrile seal

- Bearing protection
- Reinforced armature
- Resistance to wear



NTN "SOLID GREASE" STAINLESS STEEL BALL BEARINGS

Protection/Rotation speed



Technical data

Reference	Dimensions (mm)				Basic load rating (kN)		Speed (rpm) Mechanical limit speed	Weight (kg)	Basic Reference
	d	D	B	rs	Cr	Co			
SSN000LL/LP09	10	26	8	0.3	3.5	1.96	10000	0.02	S6000
SSN001LL/LP09	12	28	8	0.3	3.95	2.39	8300	0.02	S6001
SSN002LL/LP09	15	32	9	0.3	4.3	2.86	6600	0.03	S6002
SSN003LL/LP09	17	35	10	0.3	4.6	3.25	5800	0.07	S6003
SSN004LL/LP09	20	42	12	0.6	7.2	5.05	5000	0.07	S6004
SSN005LL/LP09	25	47	12	0.6	7.75	5.85	4000	0.08	S6005
SSN006LL/LP09	30	55	13	1	10.2	8.25	3300	0.12	S6006
SSN007LL/LP09	35	62	14	1	12.3	10.3	2800	0.16	S6007
SSN008LL/LP09	40	68	15	1	12.9	11.5	2500	0.19	S6008
SSN200LL/LP09	10	30	9	0.6	3.95	2.39	10000	0.03	S6200
SSN201LL/LP09	12	32	10	0.6	5.25	3.05	8300	0.04	S6201
SSN202LL/LP09	15	35	11	0.6	5.85	3.75	6600	0.05	S6202
SSN203LL/LP09	17	40	12	0.6	7.35	4.8	5800	0.12	S6203
SSN204LL/LP09	20	47	14	1	9.9	6.65	5000	0.11	S6204
SSN205LL/LP09	25	52	15	1	10.8	7.85	4000	0.13	S6205
SSN206LL/LP09	30	62	16	1	15	11.3	3300	0.20	S6206
SSN207LL/LP09	35	72	17	1.1	19.8	15.4	2800	0.29	S6207
SSN208LL/LP09	40	80	18	1.1	22.4	17.8	2500	0.37	S6208

FOOD-GRADE LUBRICANT CHARACTERISTICS: NTN "SOLID GREASE"

Operating temperature (°C) From -10°C to +80°C continuous (100°C peak)

NSF approval/H1 Category Code Record number 158287



SSN “SOLID GREASE” WATER PENETRATION PERFORMANCE TEST

TESTS CONDITIONS:

Principle:
Figure 1

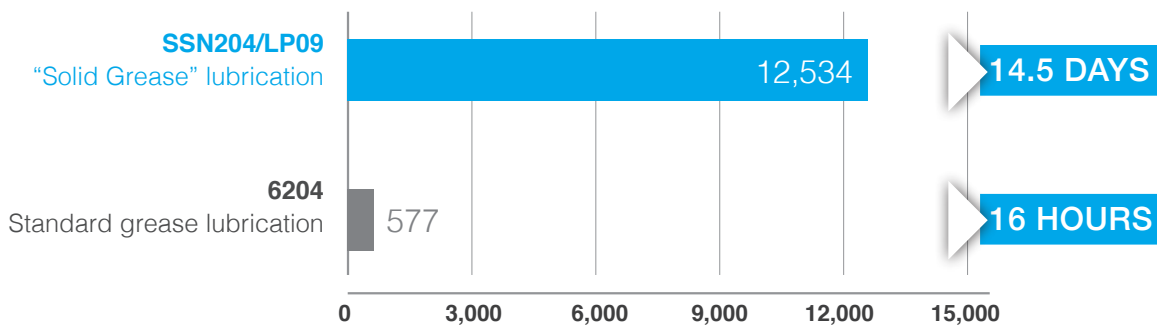
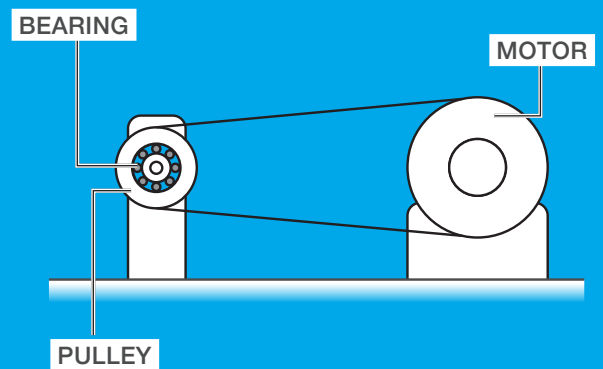
Ref. Bearings compared:
6204 (standard grease) vs SSN204 (solid lubricant)

Bearing load:
785 N (belt tension)

Rotation speed:
1 cycle = from 0 to 10,000 rpm (100 sec) at 0

Water injection cycle:
On an average, every 200 cycles, water is injected with a syringe (10 cc) inside the bearing for 10 consecutive cycles

Figure 1



Service life of the bearing - Number of cycles



SNR LUBSOLID® STAINLESS STEEL INSERT BEARINGS

Safety/Efficiency

TECHNICAL CHARACTERISTICS

- Insert bearing fully filled with LUBSOLID® solid lubricant
- All metallic components made of high-quality of stainless steel
- Sealing reinforced against humidity and contamination
- Food grade seal with additional slinger
- Anti-rotation ball on the outer ring (increased safety especially in combination with thermoplastic bearings)
- Lubrication complying with the sanitary requirements of NSF code category: H1

BENEFITS

- Cleanliness of the production line, no leakage of grease
- Elimination of re-greasing and maintenance
- No more difficulties of accessibility for maintenance
- Significantly increased insert service life
- LUBSOLID® withstands high pressure washing
- Reduction of the number of machine shutdowns
- Reduction of maintenance interventions
- Reduction of environmental impact

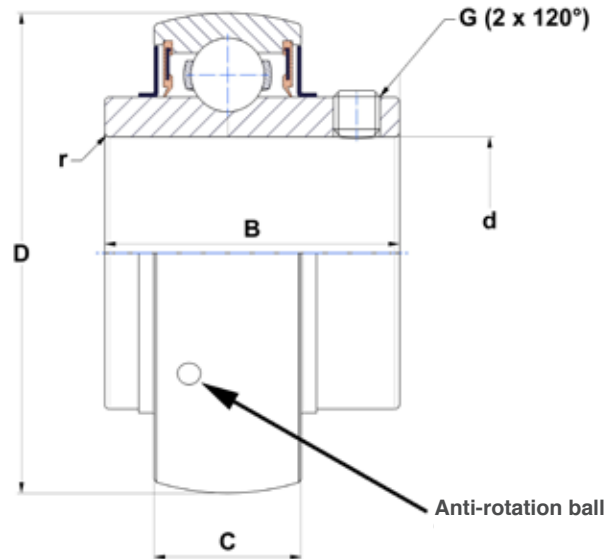
ENVIRONMENTAL BONUS

- Increased service life of the bearing
 - › gain/purchase budget
- Elimination of re-greasing inserts/bearing units
 - › gain / lubrication campaigns
 - › gain/grease consumption



STAINLESS STEEL INSERT BEARINGS

Series SUC FG1 LUBSOLID®



SUC 204 FG1

INSERT

SUC: Stainless steel insert bearing, fitting on shaft with screws

DIMENSIONAL

From 204 to 210

LUBRICANT

FG1: Lubsolid® solid lubrication H1 category certified

Technical data

Reference	Dimensions (mm)						Screw tightening torque (Nm)	Basic load rating (kN)		Speed (rpm) Mechanical limit speed				Weight (kg)
	d	D	B	C	r	G		Cr	Co	j7	h7	h8	h9	
SUC204FG1	20	47	31	17	0,5	M6x1	3.9	10.1	6.8	3800	3400	1200	0.16	
SUC205FG1	25	52	34.1	17	0,5	M6x1	3.9	11	8	3300	3000	1000	0.2	
SUC206FG1	30	62	38.1	19	0,5	M6x1	3.9	15.3	11.5	2800	2400	850	0.32	
SUC207FG1	35	72	42.9	20	1	M8x1	8.3	20.1	15.6	2400	2000	750	0.47	
SUC208FG1	40	80	49.2	21	1	M8x1	8.3	22.8	18.2	2200	1900	670	0.63	
SUC209FG1	45	85	49.2	22	1	M8x1	8.3	25.7	20.8	2000	1700	600	0.69	
SUC210FG1	50	90	51.6	24	1	M10x1.25	18.7	27.5	23.7	1900	1600	560	0.77	

FOOD-GRADE LUBRICANT CHARACTERISTICS: LUBSOLID®

Operating temperature (°C) From -10°C to +80°C continuous (100°C peak)

NSF approval/H1 Category Code Record number 154154



SNR STAINLESS STEEL SELF-ALIGNING BEARING UNITS

The ideal solution against humidity

HOUSING:

TECHNICAL CHARACTERISTICS

- 100% stainless steel resistant to corrosion: will never chip and contaminate the end product
- Without re-greasing device
- Design to withstand aggressive cleaning and corrosive environments
- Additional stainless steel covers with double lip seal

BENEFITS

- Protection against corrosion
- Optimal resistance to direct washing, even at high pressure
- Excellent mounting stability and high impact resistance
- Recess-free bearing surface of the housing, preventing material deposits
- Bearing unit covers provide additional protection during high-pressure washing with plenty of water

ENVIRONMENTAL BONUS

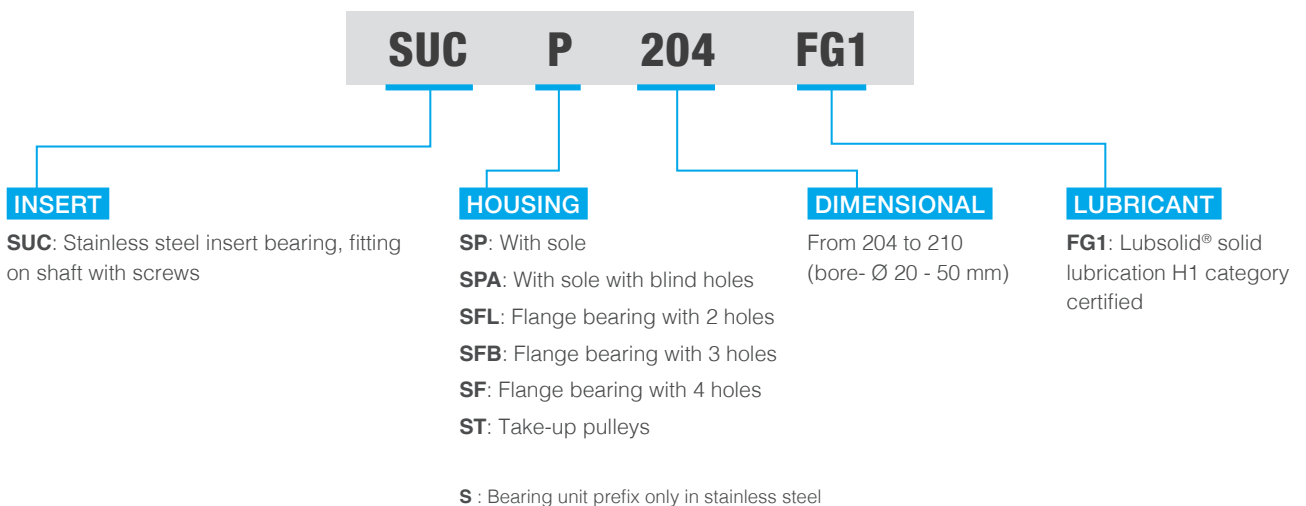
Single-component bearing unit made of 100% recyclable stainless steel



AVAILABLE DESIGNS

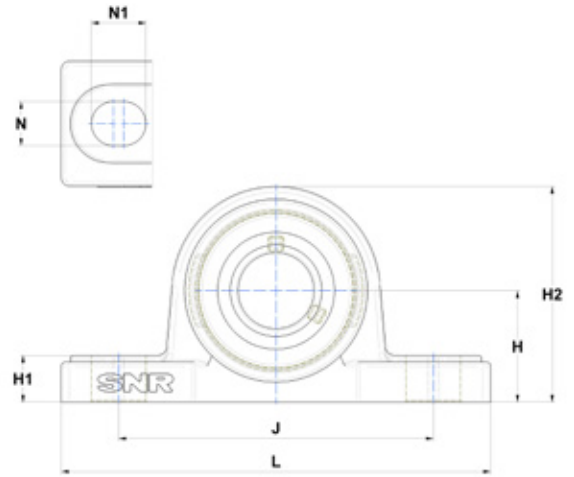


The protective covers must be ordered separately.
All bearings are grooved to accommodate the protective covers.



STAINLESS STEEL PILLOW BLOCKS

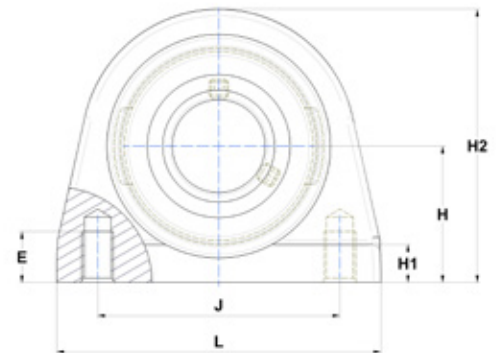
Series SUCP2..FG1 “LUBSOLID®”



Shaft diameter d (mm)	Reference	Weight (kg)	Dimensions (mm)										
			L	J	H	H1	H2	A	A1	N	N1	S	B
20	SUCP204FG1	0.8	126	95	33.3	15	65	38	21	13	19	12.7	31
25	SUCP205FG1	0.9	140	105	36.5	16	70	38	23.5	13	19	14.3	34.1
30	SUCP206FG1	1.5	165	121	42.9	18	83	48	24	17	21	15.9	38.1
35	SUCP207FG1	1.8	167	127	47.6	19	94	48	27	17	21	17.5	42.9
40	SUCP208FG1	2.3	184	136	49.2	19	100	54	27	17	23	19	49.2
45	SUCP209FG1	2.6	190	146	54	20	109	54	28	17	23	19	49.2
50	SUCP210FG1	3.2	206	159	57.2	22	114	60	30	20	25	19	51.6

STAINLESS STEEL PILLOW BLOCKS WITH BLIND HOLES

Series SUCPA2..FG1 “LUBSOLID®”

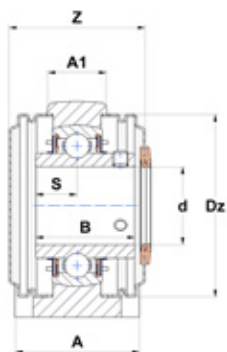


Shaft diameter d (mm)	Reference	Weight (kg)	Dimensions (mm)									
			L	J	H	H1	H2	E	A	A1	S	B
20	SUCPA204FG1	0.6	73	50.8	33.3	11	65	13	38	23	12.7	31
25	SUCPA205FG1	0.7	76	50.8	36.5	12	71	13	38	24	14.3	34.1
30	SUCPA206FG1	1.2	102	76.2	42.9	12	86	16	38	24	15.9	38.1
35	SUCPA207FG1	1.7	108	82.6	47.6	12	95	19	48	25	17.5	42.9
40	SUCPA208FG1	1.8	117	89	49.2	13	100	19	48	28	19	49.2
45	SUCPA209FG1	2.1	127	95.3	54	13	108	19	51	28	19	49.2
50	SUCPA210FG1	2.5	140	101.6	57.2	13	117	19	51	29	19	51.6

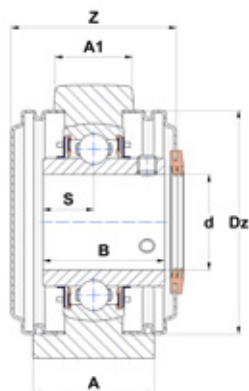
The product drawings are shown with protective covers but these are sold separately depending on the customer's requirements.



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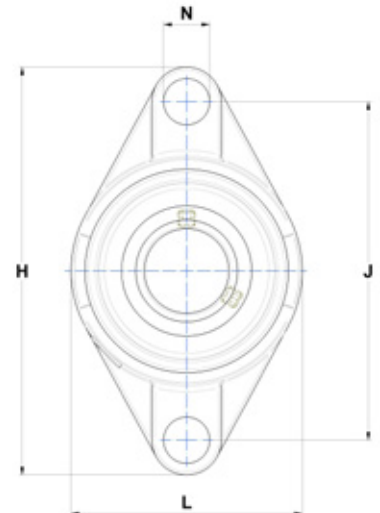
	Housing	Size of attachment bolt	Max tightening torque [N-m]	Insert Bearing	Protective covers			
					Open	Closed	Z	Dz
	SP204N	M10	30.0	SUC204FG1	SCO204-20	SCC204	44.6	54
	SP205N	M10	30.0	SUC205FG1	SCO205-25	SCC205	46.8	60
	SP206N	M14	85.0	SUC206FG1	SCO206-30	SCC206	51.8	70
	SP207N	M14	85.0	SUC207FG1	SCO207-35	SCC207	57.4	80
	SP208N	M14	85.0	SUC208FG1	SCO208-40	SCC208	67.8	88
	SP209N	M14	85.0	SUC209FG1	SCO209-45	SCC209	68.3	95
	SP210N	M16	132.5	SUC210FG1	SCO210-50	SCC210	74.6	100



	Housing	Size of attachment bolt	Max tightening torque [N-m]	Insert Bearing	Protective covers			
					Open	Closed	Z	Dz
	SPA204N	M8	15.0	SUC204FG1	SCO204-20	SCC204	45.6	54
	SPA205N	M10	30.0	SUC205FG1	SCO205-25	SCC205	46.3	60
	SPA206N	M10	30.0	SUC206FG1	SCO206-30	SCC206	51.8	70
	SPA207N	M10	30.0	SUC207FG1	SCO207-35	SCC207	57.4	80
	SPA208N	M12	53.0	SUC208FG1	SCO208-40	SCC208	67.8	88
	SPA209N	M12	53.0	SUC209FG1	SCO209-45	SCC209	67.8	95
	SPA210N	M16	132.5	SUC210FG1	SCO210-50	SCC210	74.6	100

STAINLESS STEEL FLANGE BEARINGS WITH 2 HOLES

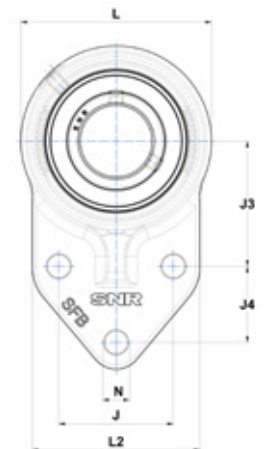
Series SUCFL2..FG1 “LUBSOLID®”



Shaft diameter d (mm)	Reference	Weight (kg)	Dimensions (mm)									
			H	L	J	A	A1	A2	e	N	S	B
20	SUCFL204FG1	0.4	112	58.5	90	25.5	12	33.3	15	12	12.7	31
25	SUCFL205FG1	0.6	125	68	99	27	13	35.8	16	13.5	14.3	34.1
30	SUCFL206FG1	0.8	141	80	117	31	13	40.2	18	13.5	15.9	38.1
35	SUCFL207FG1	1.1	156	90	130	33	15	44.4	19	16	17.5	42.9
40	SUCFL208FG1	1.4	172	100	144	36	15	51.2	21	16	19	49.2
45	SUCFL209FG1	1.7	180	108	148	38	15	52.2	22	17.5	19	49.2
50	SUCFL210FG1	1.9	190	115	157	39	16	54.6	22	17.5	19	51.6

STAINLESS STEEL FLANGE BEARINGS WITH 3 HOLES

Series SUCFB2..FG1 “LUBSOLID®”

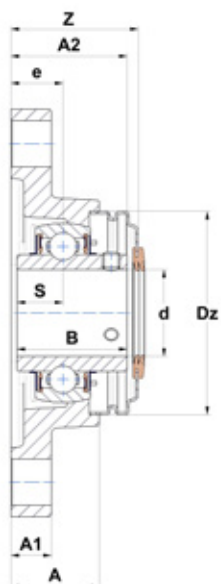


Shaft diameter d (mm)	Reference	Weight (kg)	Dimensions (mm)									
			H	H1	L	L2	J	J3	J4	A	A1	A2
20	SUCFB204FG1	0.5	106.4	76.2	60.5	60.2	38.1	42.9	22.4	25.5	7.9	33
25	SUCFB205FG1	0.6	119	85.5	67	63.5	41.4	46	28.7	27	9.7	36
30	SUCFB206FG1	0.9	135	95.3	79.5	70	47.8	52.3	31.8	30.5	9.7	40.2
35	SUCFB207FG1	1.4	152.2	107.2	90	83	50.8	60.5	31.8	33	12.7	44.4
40	SUCFB208FG1	1.7	164	114	100	78	50	60.3	41.3	36	12.7	51.2

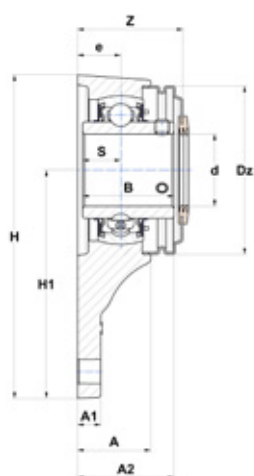
Les plans produits sont représentés avec les couvercles de protection mais ceux-ci sont vendus séparément suivant le besoin du client.



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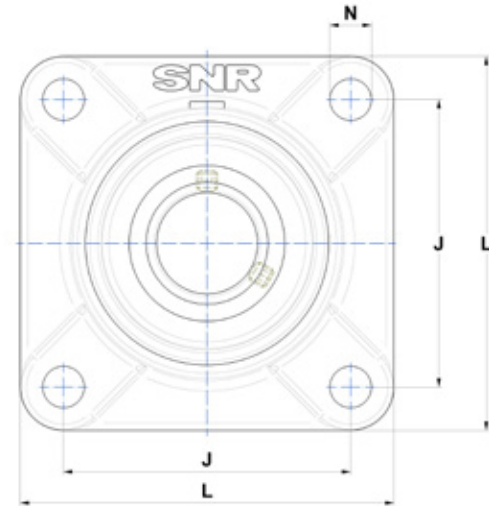
	Housing	Size of attachment bolt	Max tightening torque [N-m]	Insert Bearing	Protective covers			
					Open	Closed	Z	Dz
	SFL204N	M10	30.0	SUC204FG1	SCO204-20	SCC204	36.6	54
	SFL205N	M12	53.0	SUC205FG1	SCO205-25	SCC205	38.9	60
	SFL206N	M12	53.0	SUC206FG1	SCO206-30	SCC206	43.9	70
	SFL207N	M14	85,0	SUC207FG1	SCO207-35	SCC207	47.7	80
	SFL208N	M14	85,0	SUC208FG1	SCO208-40	SCC208	54.4	88
	SFL209N	M16	132.5	SUC209FG1	SCO209-45	SCC209	55.9	95
	SFL210N	M16	132.5	SUC210FG1	SCO210-50	SCC210	59.3	100



	e	N	S	B	Housing	Size of attachment bolts	Max. tightening torque (Nm)	Insert Bearing	Protective covers			
									Open	Closed	Z	Dz
	15	10	12.7	31	SFB204N	M8	15.0	SUC204FG1	SCO204-20	SCC204	36.9	54
	16	10	14.3	34.1	SFB205N	M8	15.0	SUC205FG1	SCO205-25	SCC205	39.1	60
	18	10	15.9	38.1	SFB206N	M8	15.0	SUC206FG1	SCO206-30	SCC206	43.9	70
	19	13.5	17.5	42.9	SFB207N	M12	53,0	SUC207FG1	SCO207-35	SCC207	47.7	80
	21	13.5	19	49.2	SFB208N	M12	53,0	SUC208FG1	SCO208-40	SCC208	55.4	88

STAINLESS STEEL FLANGE BEARINGS WITH 4 HOLES

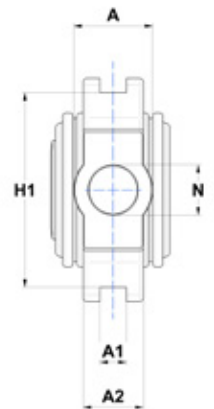
Series SUCF2..FG1 “LUBSOLID®”



Shaft diameter d (mm)	Reference	Weight (kg)	Dimensions (mm)									Housing
			L	J	A	A1	A2	e	N	S	B	
20	SUCF204FG1	0.6	86	64	25.5	12	33.3	15	12	12.7	31	SF204N
25	SUCF205FG1	0.8	95	70	27	14	35.8	16	12	14.3	34.1	SF205N
30	SUCF206FG1	1.1	108	83	30.5	14	40.2	18	12	15.9	38.1	SF206N
35	SUCF207FG1	1.4	116	92	33.5	14.5	44.4	19	14	17.5	42.9	SF207N
40	SUCF208FG1	1.9	130	102	36	14.5	51.2	21	16	19	49.2	SF208N
45	SUCF209FG1	2.2	137	105	38	15.5	52.2	22	16	19	49.2	SF209N
50	SUCF210FG1	2.5	143	111	40	15	54.6	22	16	19	51.6	SF210N

STAINLESS STEEL TAKE-UP PULLEYS BEARING UNITS

Series SUCT2..FG1 “LUBSOLID®”

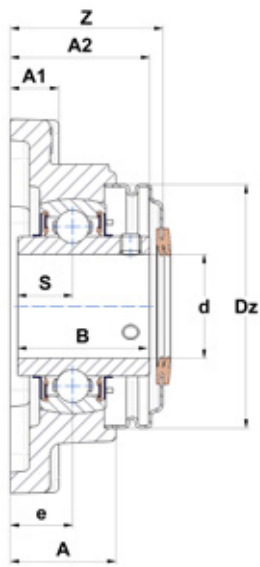


Shaft diameter d (mm)	Reference	Weight (kg)	Dimensions (mm)										
			L	L1	L2	L3	A	A1	A2	H	H1	H2	N
20	SUCT204FG1	0.7	94	61	10	51	32	12	21	89	76	51	19
25	SUCT205FG1	0.9	95	60.5	8	51	32	12	24	89	76	51	19
30	SUCT206FG1	1.3	113	70	10	57	37	12	28	102	89	56	22
35	SUCT207FG1	1.7	129	78	13	64	37	12	30	102	89	64	22
40	SUCT208FG1	2.4	144	88	16	83	49	16	33	114	102	83	29
45	SUCT209FG1	2.5	144	87	16	83	49	16	35	117	102	83	29
50	SUCT210FG1	2.7	149	90	16	86	49	16	37	117	102	83	29

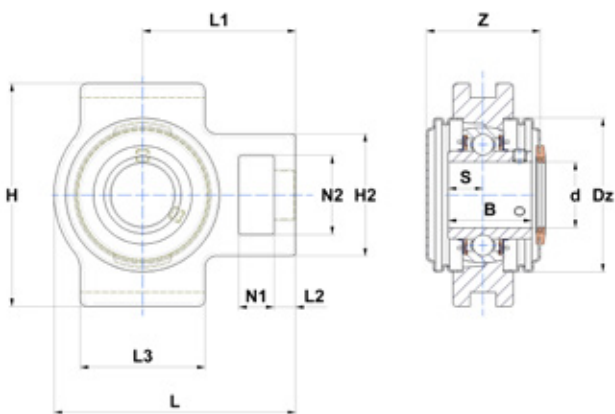
The product drawings are shown with protective covers but these are sold separately depending on the customer's requirements.



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SERIES



	Size of attachment bolts	Max. tightening torque (Nm)	Insert Bearing	Protective covers			
				Open	Closed	Z	Dz
	M10	30.0	SUC204FG1	SCO204-20	SCC204	36.6	54
	M10	30.0	SUC205FG1	SCO205-25	SCC205	39.2	60
	M10	30.0	SUC206FG1	SCO206-30	SCC206	44.2	70
	M12	53.0	SUC207FG1	SCO207-35	SCC207	47.5	80
	M14	85.0	SUC208FG1	SCO208-40	SCC208	54.7	88
	M14	85.0	SUC209FG1	SCO209-45	SCC209	56	95
	M14	85.0	SUC210FG1	SCO210-50	SCC210	59.1	100



	N1	N2	S	B	Housing	Insert Bearing	Protective covers			
							Open	Closed	Z	Dz
	16	32	12.7	31	ST204N	SUC204FG1	SCO204-20	SCC204	44.6	54
	16	32	14.3	34.1	ST205N	SUC205FG1	SCO205-25	SCC205	47.4	60
	16	37	15.9	38.1	ST206N	SUC206FG1	SCO206-30	SCC206	52.4	70
	16	37	17.5	42.9	ST207N	SUC207FG1	SCO207-35	SCC207	57.4	80
	19	49	19	49.2	ST208N	SUC208FG1	SCO208-40	SCC208	66.8	88
	19	49	19	49.2	ST209N	SUC209FG1	SCO209-45	SCC209	68.6	95
	19	49	19	51.6	ST210N	SUC210FG1	SCO210-50	SCC210	75.2	100

**SUCCESS STORY:
STAINLESS STEEL
SELF-ALIGNING
BEARING UNITS WITH
LUBSOLID® INSERT**





CUSTOMER SITUATION

A large poultry plant, processing 175,000 birds per day, was experiencing problems with SUCF206 rolling bearing failures on their poultry cage washing machines and cage unloading system. Equipment affected by corrosion and cleaning agents. Loss: €231 per minute.

CUSTOMER NEED

Improve the reliability of the bearing during the high pressure washing to increase his profitability.



NTN SOLUTION

Use of stainless steel bearing units with additional covers and stainless steel insert with LUBSOLID®: SUCF206FG1.

Perfect solution against corrosion and exposure to high pressure washing.

CUSTOMER BENEFITS

Considerable increase in bearing service life, faster maintenance (no need for special care to protect bearings from washing).

SAVING ACHIEVED

REDUCTION IN BEARING CONSUMPTION
€74,200

REDUCED MAINTENANCE
€31,200

IMPROVING THE AVAILABILITY
€15,080

TOTAL
€120,480/YEAR



SNR THERMOPLASTIC SELF-ALIGNING BEARING UNITS

Specifically designed to prevent the collection of dirt

HOUSING:

TECHNICAL CHARACTERISTICS

- Resistant to numerous chlorine containing and corrosive cleaning agents
- Housing material made of thermoplastic (PBT) with particularly smooth surfaces to prevent deposits of the process material
- Design without any recesses or indentations guaranteeing easy and thorough cleaning
- Mounting holes reinforced with stainless steel metal bushes
- Prepared for tool-free mounting of protective covers

BENEFITS

- Good friction and wear resistance
- Excellent internal and external protection
- Insensitive to the formation of bacteria
- Extra resistance during wash cycles
- Clean operating environment ensured
- Unit protection covers provide additional protection against direct washing, even at high pressure

ENVIRONMENTAL BONUS

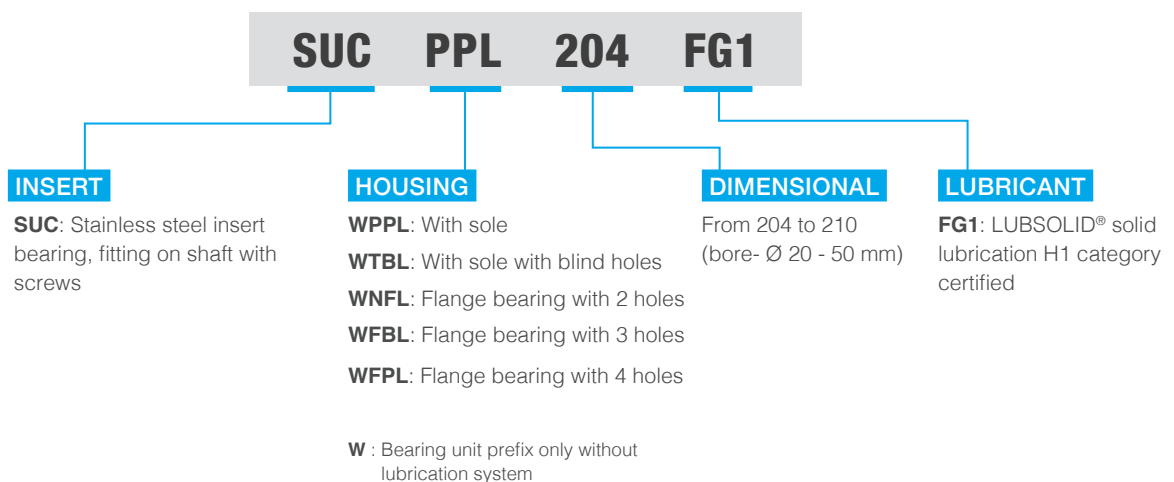
Significantly increased frequency of insert bearing replacement, thus increasing the service life of the thermoplastic bearing unit



AVAILABLE DESIGNS

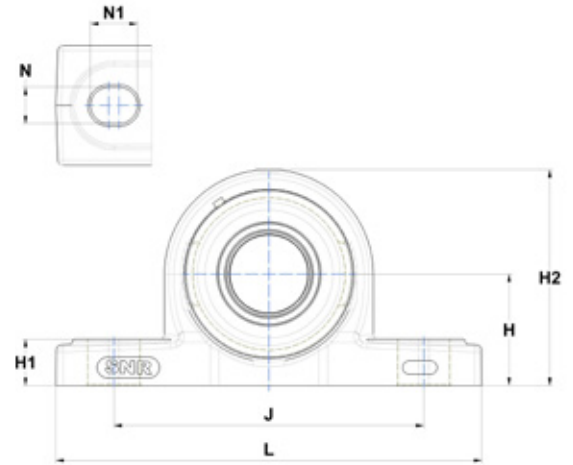


The protective covers must be ordered separately.
All bearings are grooved to accommodate the protective covers.



THERMOPLASTIC PILLOW BLOCKS

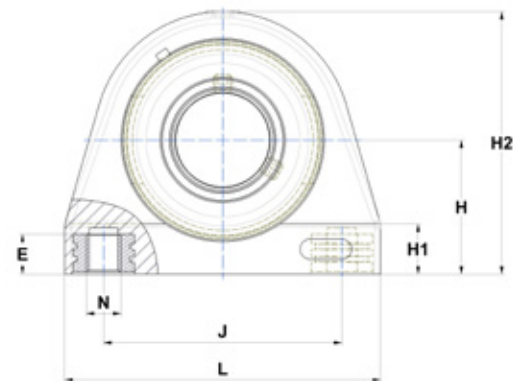
Series SUCPPL2..FG1 “LUBSOLID®”



Shaft diameter d (mm)	Reference	Weight (kg)	Dimensions (mm)									
			L	J	H	H1	H2	A	N	N1	S	B
20	SUCPPL204FG1	0.3	127	95	33.3	14.2	65	38	11	14	12.7	31
25	SUCPPL205FG1	0.3	140	105	36.5	14.5	71	38	11	14	14.3	34.1
30	SUCPPL206FG1	0.5	162	119	42.9	17.8	83	46	14	18	15.9	38.1
35	SUCPPL207FG1	0.8	167	127	47.6	18	94	48	14	18	17.5	42.9
40	SUCPPL208FG1	1.0	184	137	49.2	19.5	98	54	14	18	19	49.2
45	SUCPPL209FG1*	1.1	192	146	54	23	106	54	17	20	19	49.2
50	SUCPPL210FG1*	1.2	206	159	57.2	23	114	60	17	20	19	51.6

THERMOPLASTIC PILLOW BLOCKS WITH BLIND HOLES

Series SUCTBL2..FG1 “LUBSOLID®”



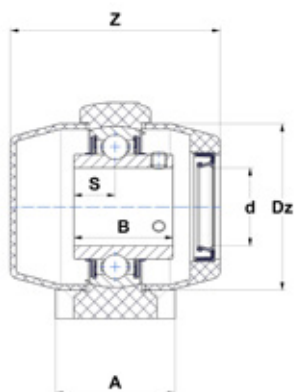
Shaft diameter d (mm)	Reference	Weight (kg)	Dimensions (mm)									
			L	J	H	H1	H2	A	E	S	B	
20	SUCTBL204FG1*	0.3	72.8	50.8	33.3	13	66	34.5	12	12.7	31	
25	SUCTBL205FG1*	0.3	76.2	50.8	36.5	14	73.5	39.5	12	14.3	34.1	
30	SUCTBL206FG1*	0.5	101	76.2	42.9	16	84	42.5	12	15.9	38.1	
35	SUCTBL207FG1*	0.7	110	82.6	47.6	18.5	95	47.5	15.5	17.5	42.9	
40	SUCTBL208FG1*	0.9	120	88.9	49.2	22.5	100.5	48	16	19	49.2	
45	SUCTBL209FG1*	1.1	124	95.3	54	22.5	108.5	50	16	19	49.2	
50	SUCTBL210FG1*	1.3	135	101.6	57.2	24	115	54	23.5	19	51.6	

* Consult us

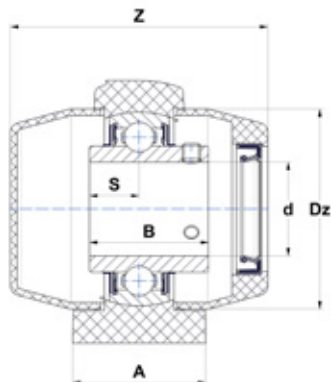
The product drawings are shown with protective covers but these are sold separately depending on the customer's requirements.



SENTINEL
SERIES



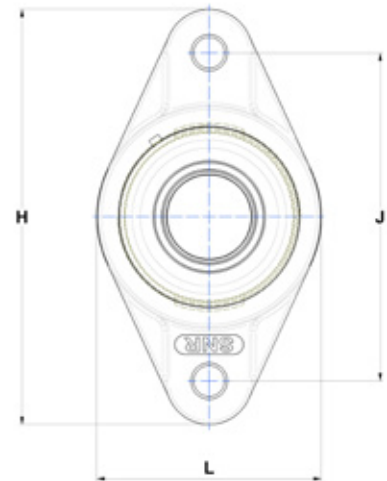
	Housing	Size of attachment bolts	Max. tightening torque (Nm)	Insert Bearing	Protective covers			
					Open	Closed	Z	Dz
	WPPL204	M10	17.5	SUC204FG1	CV204	CF204	63.3	50
	WPPL205	M10	17.5	SUC205FG1	CV205	CF205	68.1	55
	WPPL206	M12	30.5	SUC206FG1	CV206	CF206	80.4	64
	WPPL207	M12	30.5	SUC207FG1	CV207	CF207	89.7	74.5
	WPPL208	M12	30.5	SUC208FG1	CV208	CF208	103	84
	WPPL209	M16	50.0	SUC209FG1	CV209	CF209	110.8	89
	WPPL210	M16	50.0	SUC210FG1	CV210	CF210	122.6	94



	Housing	N	Max. tightening torque (Nm)	Insert Bearing	Protective covers			
					Open	Closed	Z	Dz
	WTBL204	M8	5.3	SUC204FG1	CV204	CF204	64.7	50
	WTBL205	M10	17.5	SUC205FG1	CV205	CF205	70	55
	WTBL206	M10	17.5	SUC206FG1	CV206	CF206	82.3	64
	WTBL207	M10	17.5	SUC207FG1	CV207	CF207	89.9	74.5
	WTBL208	M12	30.5	SUC208FG1	CV208	CF208	102.8	84
	WTBL209	M12	30.5	SUC209FG1	CV209	CF209	109.2	89
	WTBL210	M16	50.0	SUC210FG1	CV210	CF210	123.3	94

THERMOPLASTIC FLANGE BEARINGS WITH 2 HOLES

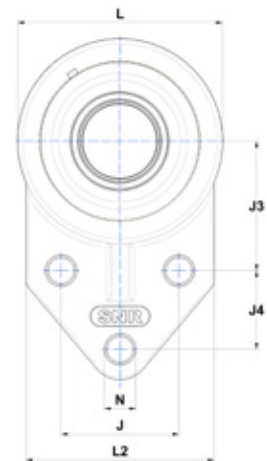
Series SUCNFL2..FG1 “LUBSOLID®”



Shaft diameter d (mm)	Reference	Weight (kg)	Dimensions (mm)									
			H	J	L	N	A	A1	A2	e	S	B
20	SUCNFL204FG1	0.3	113	90	64.8	11	26.5	11.4	33.7	15.4	12.7	31
25	SUCNFL205FG1	0.3	130	99	70	11	29.1	13.5	36.8	17	14.3	34.1
30	SUCNFL206FG1	0.5	148	117	80	11	30.5	13.3	41.2	19	15.9	38.1
35	SUCNFL207FG1	0.7	163	130	90	13	32.8	16.1	43.4	18	17.5	42.9
40	SUCNFL208FG1	0.9	175	144	100	14	37.5	20	51.7	21.5	19	49.2
45	SUCNFL209FG1*	1.0	188	148.5	108	17	41	21	54.2	24	19	49.2
50	SUCNFL210FG1*	1.2	197	157	115	17	43	21	57.6	25	19	51.6

THERMOPLASTIC FLANGE BEARINGS WITH 3 HOLES

Series SUCFBL2..FG1 “LUBSOLID®”



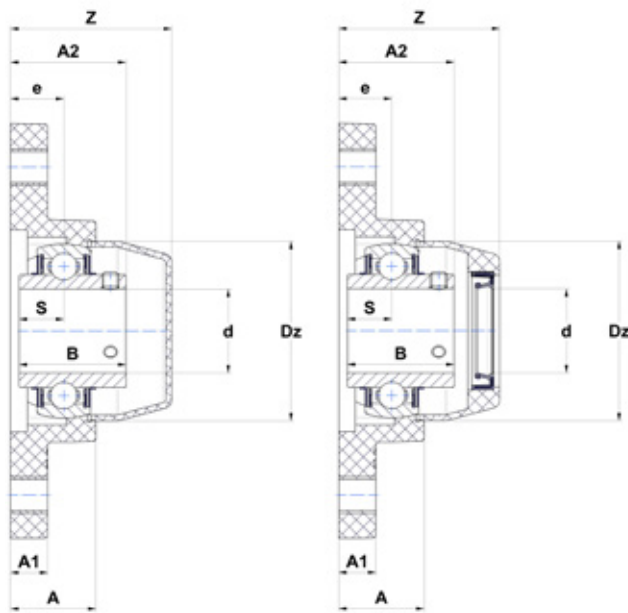
Shaft diameter d (mm)	Reference	Weight (kg)	Dimensions (mm)													
			H	H1	L	L2	J	J3	J4	N	A	A1	A2	e	S	B
20	SUCFBL204FG1*	0.26	108	76.2	63.5	62	38.1	42.9	22.2	10.7	26.5	11.4	33.7	15.4	12.7	31
25	SUCFBL205FG1*	0.3	120.6	85.7	70	63.5	41.3	46	28.6	10.7	34	11.4	41.6	21.8	14.3	34.1
30	SUCFBL206FG1*	0.46	138.5	96.5	83	76	47.6	52.4	31.8	10.7	32	13.3	41.5	19.3	15.9	38.1
35	SUCFBL207FG1*	0.66	157	108.5	95	89	50.8	60.3	31.8	13.1	36.5	16.1	47.1	21.7	17.5	42.9
40	SUCFBL208FG1*	0.85	158.5	109.5	99	89	50.8	60.3	31.8	13.1	36	16	51.7	21.5	19	49.2

* Consult us

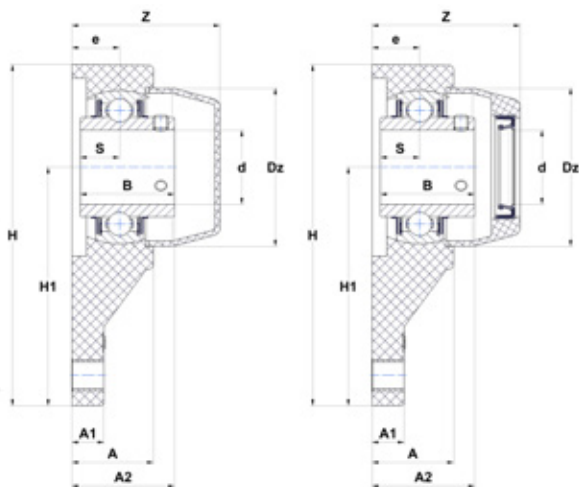
The product drawings are shown with protective covers but these are sold separately depending on the customer's requirements.



SENTINEL
SERIES



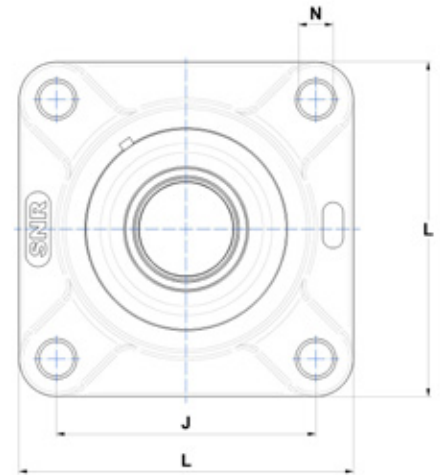
	Housing	Size of attachment bolts	Max. tightening torque (Nm)	Insert Bearing	Protective covers			
					Open	Closed	Z	Dz
	WNFL204	M10	17.5	SUC204FG1	CV204	CF204	46.8	50
	WNFL205	M10	17.5	SUC205FG1	CV205	CF205	51.1	55
	WNFL206	M10	17.5	SUC206FG1	CV206	CF206	57.5	64
	WNFL207	M12	30.5	SUC207FG1	CV207	CF207	61.6	74.5
	WNFL208	M12	30.5	SUC208FG1	CV208	CF208	71	84
	WNFL209	M16	45	SUC209FG1	CV209	CF209	78.4	89
	WNFL210	M16	45	SUC210FG1	CV210	CF210	86.3	94



	Housing	Size of attachment bolts	Max. tightening torque (Nm)	Insert Bearing	Protective covers			
					Open	Closed	Z	Dz
	WFBL204	M10	17.5	SUC204FG1	CV204	CF204	46.8	50
	WFBL205	M10	17.5	SUC205FG1	CV205	CF205	56.2	55
	WFBL206	M10	17.5	SUC206FG1	CV206	CF206	58.9	64
	WFBL207	M12	30.5	SUC207FG1	CV207	CF207	65.1	74.5
	WFBL208	M12	30.5	SUC208FG1	CV208	CF208	69.5	84

THERMOPLASTIC FLANGE BEARINGS WITH 4 HOLES

Series SUCFPL2..FG1 “LUBSOLID®”



Shaft diameter d (mm)	Reference	Weight (kg)	Dimensions (mm)								
			L	J	N	A	A1	A2	e	S	B
20	SUCFPL204FG1	0.3	86.0	63.5	11	27.8	13.4	36.3	18	12.7	31
25	SUCFPL205FG1	0.4	95.0	70	11	28	14.3	36.8	17	14.3	34.1
30	SUCFPL206FG1	0.5	107.0	83	11	31.5	14.3	41.4	19.2	15.9	38.1
35	SUCFPL207FG1	0.7	118.0	92	13	34.8	15.5	46.9	21.5	17.5	42.9
40	SUCFPL208FG1	1.0	130.0	102	14	37.5	17	53.2	23	19	49.2
45	SUCFPL209FG1*	1.1	137.0	105	17	41	19	54.2	24	19	49.2
50	SUCFPL210FG1*	1.3	143.0	111	17	43	21	57.2	25	19	51.6

The product drawings are shown with protective covers but these are sold separately depending on the customer's requirements.

* Consult us

MAXIMUM LOAD CAPACITY OF THERMOPLASTIC BEARING UNITS

The values indicate the static strength of thermoplastic boxes at ambient temperature.

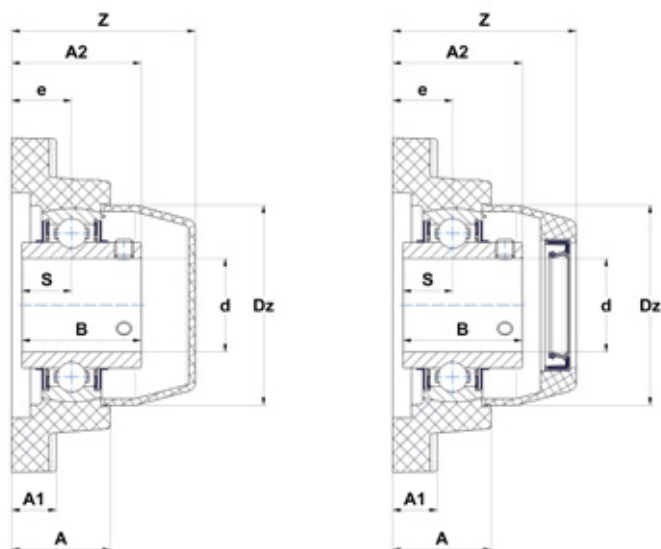
Reference	TBL204	TBL205	TBL206	TBL207	TBL208	TBL209	TBL210
Load direction	[N]						
	8210	8540	10370	12150	12230	12900	13850
	6900	7010	6580	8080	9100	10400	11050
	2980	2850	4950	8160	9800	10710	11360

Reference	NFL204	NFL205	NFL206	NFL207	NFL208	NFL209	NFL210
Load direction	[N]						
	11750	11375	16450	16900	17350	17600	17950
	11000	13850	13350	13950	14050	14300	14550
	8500	11100	14200	14900	14900	15150	15650

Reference	FBL204	FBL205	FBL206	FBL207	FBL208
Load direction	[N]				
	7200	9100	12200	12900	12900
	9200	11100	11800	11900	11900
	2600	2800	2900	3100	3100



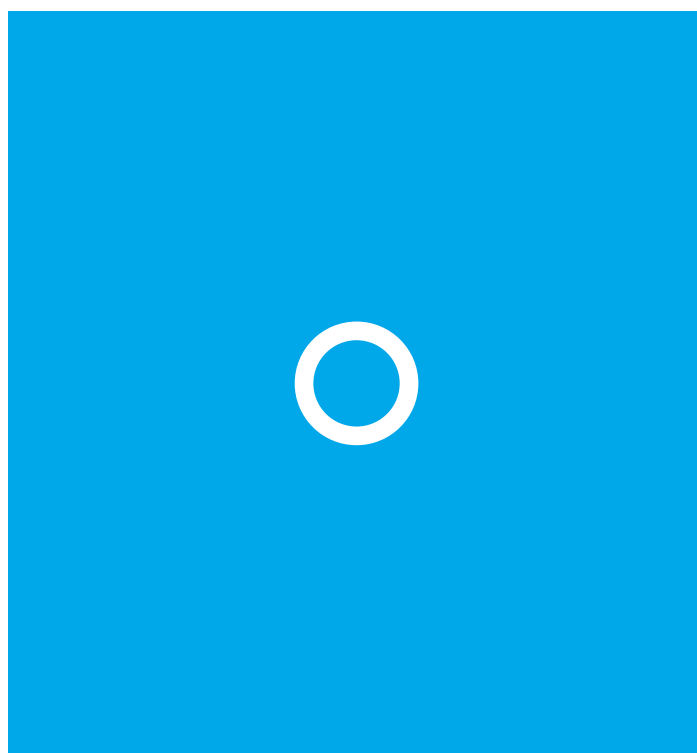
SENTINEL
SERIES



	Housing	Size of attachment bolts	Max. tightening torque (Nm)	Insert Bearing	Protective covers			
					Open	Closed	Z	Dz
	WFPL204	M10	17.5	SUC204FG1	CV204	CF204	48.2	50
	WFPL205	M10	17.5	SUC205FG1	CV205	CF205	50.1	55
	WFPL206	M10	17.5	SUC206FG1	CV206	CF206	58.7	64
	WFPL207	M12	30.5	SUC207FG1	CV207	CF207	63.6	74.5
	WFPL208	M12	30.5	SUC208FG1	CV208	CF208	71	84
	WFPL209	M16	45.0	SUC209FG1	CV209	CF209	78.4	89
	WFPL210	M16	45.0	SUC210FG1	CV210	CF210	86.3	94

Reference	PPL204	PPL205	PPL206	PPL207	PPL208	PPL209	PPL210
Load direction	[N]						
	8800	13700	12650	12750	13100	13360	13850
	7700	10000	10600	10800	11100	11400	11750
	5000	8100	5750	7500	8500	8950	9550

Reference	FPL204	FPL205	FPL206	FPL207	FPL208	FPL209	FPL210
Load direction	[N]						
	15950	13000	18000	18500	19100	19350	19650
	10250	12150	17700	18500	19250	19350	19650
	3650	3350	3350	3520	3790	3850	3990





SUCCESS STORY: THERMOPLASTIC SELF-ALIGNING BEARING UNITS WITH LUBSOLID® INSERT



CUSTOMER SITUATION

A producer of french fries replaced 432 MUCNFL205 bearings on a potato calibration machine. Application affected by water infiltration and residues in the bearings.

CUSTOMER NEED

Find a solution to optimise the sealing of bearings and increase their service life.

NTN SOLUTION

Use of thermoplastic bearing units and stainless steel inserts with LUBSOLID® lubrication: SUCNFL205FG1.

CUSTOMER BENEFITS

Bearing consumption reduced to 72 (from 432), an 82% improvement.

SAVING ACHIEVED

REDUCTION IN BEARING CONSUMPTION

€27,936

REDUCED MAINTENANCE

€5,580

IMPROVING THE AVAILABILITY

€1,277,100

TOTAL

€1,310,616/YEAR



In 2016, NTN Bearings Corporation of America (NBCA), a subsidiary of NTN Corp, began marketing the SENTINEL SERIES.

This launch was based on products from the NTN group's food-processing ranges as well as our know-how and expertise in solid lubrication.

This range quickly established itself in North America as being THE answer to the production problems of food products.

74 %

is the increase in demand for SENTINEL products over three years.



BSA CBS Excellence Award in 2018 and 2019

Bearing Specialists Association (BSA) award for excellence in product innovation and design.

2021

In 2021, NTN has decided to continue this commercial success by extending the development of this range on the European continent.

NTN[®]
Make the world **NAMERAKA**



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