

Bearings F 600  
for very high temperature

SNR - Industry





## Low material handling equipment subject to high temperature : demanding applications

In certain industries, materials handling equipment may have to operate at very high temperature. Such is the case for ceramic, brickwork, glass processing industries and for steel mills.

SNR can offer bearings that are specifically designed for material handling equipment operating at low speed and high-temperatures (kiln cars, handling rollers, conveyor belts, etc.). These applications are often subject to the following operating conditions :

- Continuous (or intermittent) operating temperature between 200 and 350°C.
- Low speed of rotation : below 50 rpm maximum
- Moderate loads.

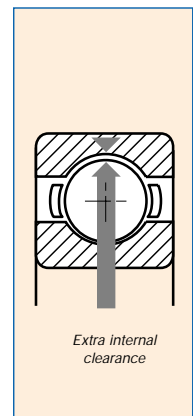
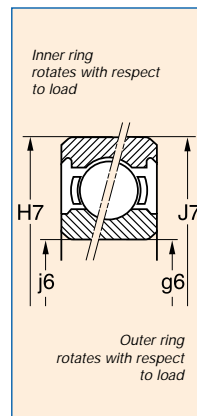


## SNR F600 series : the response with appropriate characteristics

These radial contact ball bearings have the following features and benefits :

- **Large radial clearance.** This clearance is sufficient to compensate for differential thermal expansion between the inner and outer rings of the bearing and for thermal of surrounding parts.
- **Heat treatment** with stabilization temper. Beyond 110 to 120°C, steel undergoes a structural change resulting in an increase of its specific volume. To limit this phenomenon, SNR F600 bearings are subject to a special high-temperature temper.
- **Pressed steel cage.**
- **Recessed markings** on both rings.

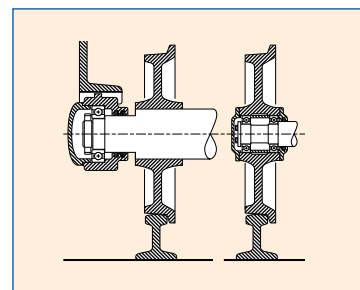
This marking process allows to maintain the proper identification of any bearings at all times regardless of operating conditions.



Recommended Fitting Tolerance

## Selection of bearing size

Since speed is quite low (under 50 rpm) and idle time often long, the criterion for calculating the bearing is based on its static load. The Bearing Characteristics Table on the following page indicates the maximum permissible static load for each SNR F600 bearing size. Of course, this static load depends on the operating temperature since the steel hardness drops as its temperature rises.



Axle Configuration Free Wheel Configuration

# Bearing type selection and instructions for use

## SNR F600 : Standard Type

This bearing type is open with a black finish appearance. It benefits from a special surface treatment over the entire bearing. This surface treatment gives the bearing better resistance to corrosion and act as ad a basic dry lubrication that is adequate for applications where speed and loads are not severe.

- If additional lubricant is necessary prior to fitting, use the KLÜBER WOLFRASYN ULAF 60 compound and insert the quantity recommended in the table. Make sure that it goes between the balls and the raceways. The compound that has the texture of a paste will turn into a powder once the volatile component evaporates.  
Use KLÜBER WOLFRASYN ULAF 60 FLUID for relubrication during operation.
- Caution : Bearings should be neither washed nor oiled at installation.

## SNR F604, Greased and Shielded Type

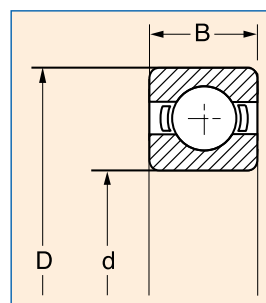
This bearing type with a black finish is suited for heavily contaminated environment. In addition to the special surface treatment, it is pre-lubricated with a high-temperature grease and protected by two built-in shields.

## SNR F605, Special Type for Limestone

This open bearing type is designed for use in limestone kiln. It has a glossy appearance and is stabilized for temperature up to 350°C, but it comes with no surface treatment. We recommend filling the housing empty space with a polytetrafluorethylene-type lubricant.

The special treatment of the F600 series treatments can be applied to other sizes and other types of bearings (e.g. spherical roller bearings).

Please consult with SNR Technical Services.



Bearing Reference	Recommended Quantity of lubricant (grams) for F600 serie				Dimensions mm			Maximum load (x1000 Newtons) recommended at speed lower than 50 rpm and at operating temperature of :							
	(For guidance)				d	D	B	200° 250° 300° 350° Free Wheel Configuration				200° 250° 300° 350° Axle Configuration			
6004 F600	F604	F605	0,6	20	42	12	1,7	1,5	1,3	1,0	2,4	2,3	2,0	1,6	
6007 F600	F604	F605	1,3	35	62	14	3,4	3,1	2,6	2,1	4,9	4,6	4,1	3,3	
6008 F600	F604	F605	1,7	40	68	15	3,8	3,5	2,9	2,3	5,5	5,2	4,6	3,7	
6204 F600	F604	F605	0,9	20	47	14	2,2	2,0	1,7	1,3	3,2	3,0	2,6	2,1	
6205 F600	F604	F605	1,1	25	52	15	2,6	2,4	2,0	1,6	3,8	3,6	3,2	2,5	
6206 F600	F604	F605	1,7	30	62	16	3,8	3,4	2,8	2,3	5,4	5,1	4,5	3,6	
6207 F600	F604	F605	2,4	35	72	17	5,1	4,6	3,8	3,1	7,3	6,9	6,1	4,9	
6208 F600	F604	F605	3,2	40	80	18	6,0	5,4	4,5	3,6	8,6	8,1	7,2	5,7	
6209 F600	F604	F605	4,0	45	85	19	6,8	6,2	5,1	4,1	9,8	9,2	8,2	6,6	
6210 F600	F604	F605	4,6	50	90	20	7,7	7,0	5,8	4,6	11,1	10,4	9,3	7,4	
6211 F600	F604	F605	6,0	55	100	21	9,7	8,7	7,3	5,8	13,9	13,1	11,6	9,3	
6212 F600	F604	F605	7,2	60	110	22	12,0	10,8	9,0	7,2	17,3	16,2	14,4	11,5	
6213 F600	F604	F605	8,6	65	120	23	13,3	12,0	10,0	8,0	19,2	18,0	16,0	12,8	
6214 F600	F604	F605	10,0	70	125	24	14,7	13,2	11,0	8,8	21,1	19,8	17,6	14,1	
6217 F600	F604	F605	16,0	85	150	28	21,3	19,2	16,0	12,8	30,7	28,8	25,6	20,5	
6220 F600	F604	F605	30,0	100	180	34	31,0	27,9	23,3	18,6	44,6	41,9	37,2	29,8	
6305 F600	F604	F605	2,1	25	62	17	4,1	3,7	3,1	2,4	5,9	5,5	4,9	3,9	
6307 F600	F604	F605	5,0	35	80	21	6,4	5,7	4,8	3,8	9,2	8,6	7,6	6,1	
6309 F600	F604	F605	7,6	45	100	25	10,5	9,5	7,9	6,3	15,1	14,2	12,6	10,1	
6310 -	-	F605	-	50	110	27	12,5	11,4	9,5	7,6	18,2	17,1	15,2	12,2	
6311 F600	F604	F605	14,0	55	120	29	14,8	13,4	11,1	8,9	21,4	20,0	17,8	14,2	

Please consult with our Sales Representative for references that are not listed in above table or are printed in Italian.

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