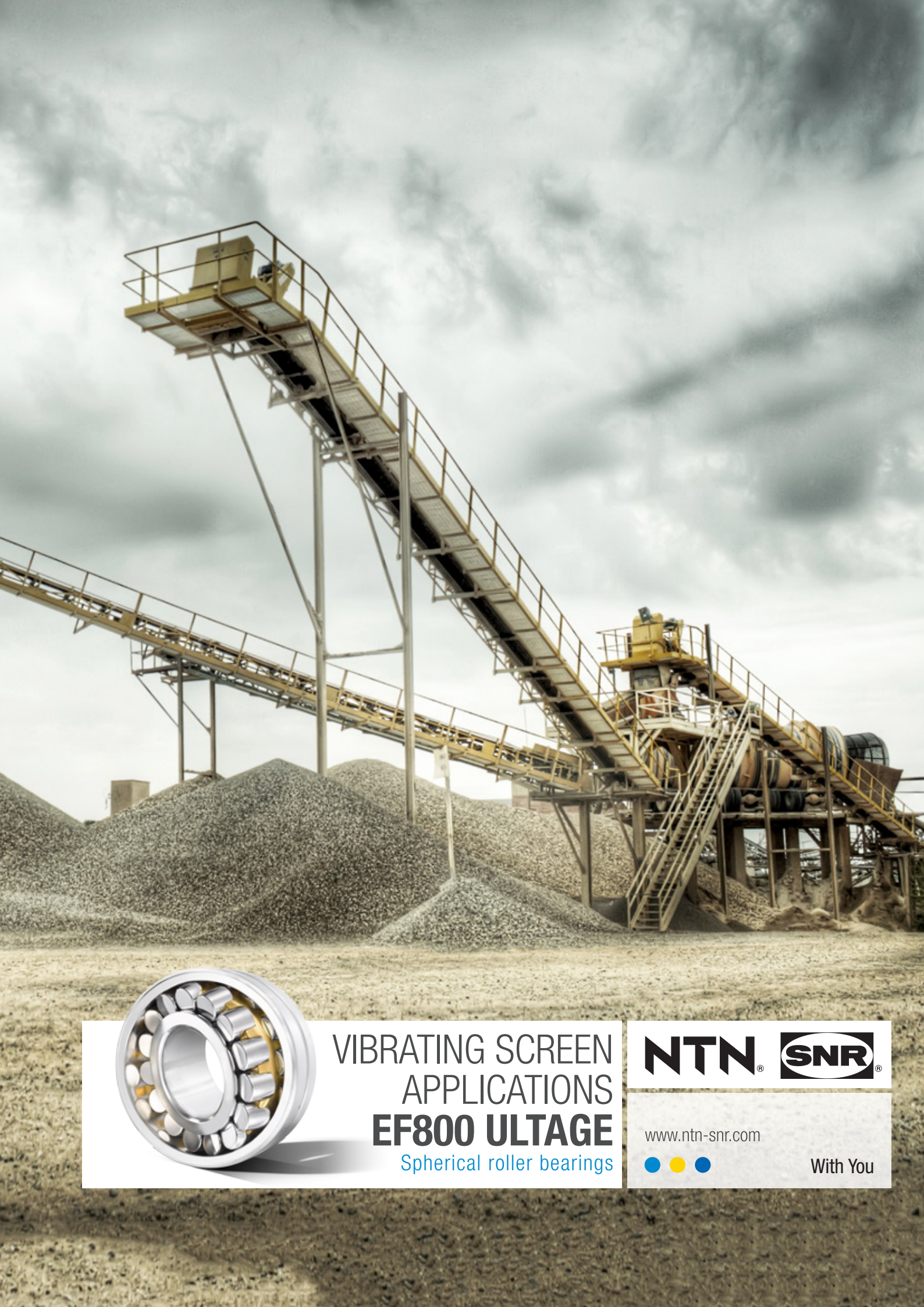


VIBRATING SCREEN APPLICATIONS

EF800 ULTAGE

Spherical roller bearings

NTN SNR

www.ntn-snr.com

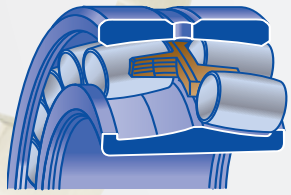
With You

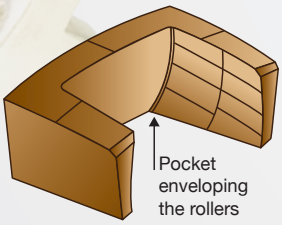
OPTIMIZE THE EFFICIENCY OF YOUR SCREENS

THE FEATURES THAT MAKE THE EF800 ULTAGE

OPTIMISED MASSIVE BRASS CAGE: PROVEN RELIABILITY

The high radial accelerations of vibrating applications place a particular stress on the cage. The EF800 series is equipped with a cage able to respond to this.



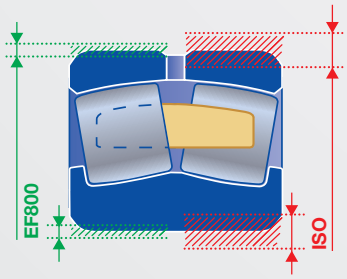


- Symmetrical rollers with a machined brass alloy one-piece cage centered on the rolling elements.
- No floating guide ring or fixed central shoulder section. This prevents any risk of cage/ring seizure in the event of thermal expansion. The self-lubricating properties of the cage material reduce heat build-up at high speeds.
- The contoured profile of the cage pockets, combined with the capacity of the copper alloy to withstand impacts, guarantees the stability of the rolling elements under the harshest of operating conditions.

Pollution, overload, overheating, housing deformation or loss of lubricant efficency are the mains causes of failure. When initial damage occurs, the massive brass cage ensures a longer service life, allowing the planning of preventive maintenance.

SPECIFIC DIMENSIONAL TOLERANCES: GUARANTEED STABILITY

The EF800 specification sets out reduced bore tolerances for cylindrical bores, for the tapered bores and for the outer diameters, compared with the tolerance ranges of the standard series, guaranteeing perfect ring adjustment.



- Cylindrical bore: reduced tolerances to g6 or f6 type.
- Tapered bore: reduced tolerances enabling limitation of the axial displacement of the inner ring when setting the clearance during assembly, thereby facilitating the assembly operations.
- Outer diameter: reduced tolerances to P6 type.

REDUCED INTERNAL RADIAL CLEARANCE: EASY SET-UP

In order to avoid any risk of preload on the bearings, linked to adjustment defects or deformation of the shaft or housing seating surfaces. NTN-SNR proposes a special radial clearance range that facilitates achievement and control of final radial clearance after assembly and takes specific operating conditions into account for these materials.

- EF800 series = C4 with reduced tolerance

Ex. EF800 clearance value vs C4 clearance value

	22220		Clearance in micron											
Clearance	Mini	Maxi	130	135	140	145	150	155	160	165	170	175	180	185
C4	135	180												
EF800 Clearance	165	180												

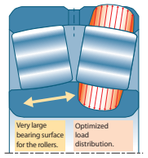
In certain cases, applications may require the use of a clearance other than C4.

- EF801 series = C3 with reduced tolerance

EF800 SERIES: SPECIFIC BEARINGS FOR APPLICATIONS SUBJECT TO HIGH VIBRATIONS

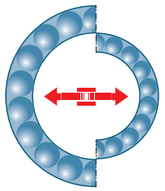
The vibratory mechanisms such as those found in screeners, crushers, grinders constitute some of the most demanding applications for bearings. NTN-SNR, from the ULTAGE spherical roller bearing range, has developed a specific design to meet these critical requirements: EF800 series.

ADVANTAGES OF THE ULTAGE RANGE:



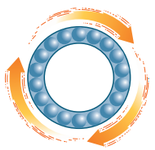
Surface optimisation

Reduced power consumption



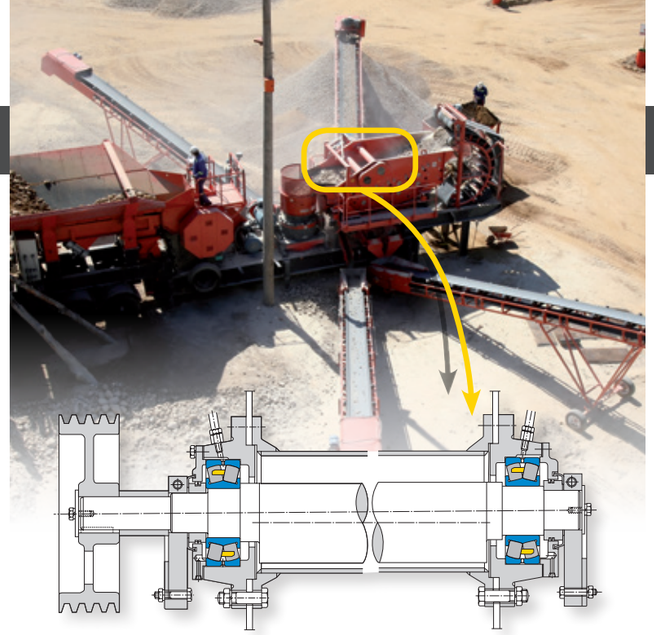
Improved performance -> reduced dimensions

Reduced friction torque



Increased operating speeds

Reduced operating costs

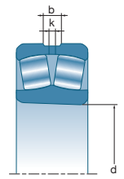


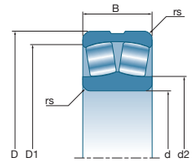
EF800 SERIES CATALOGUE LIST

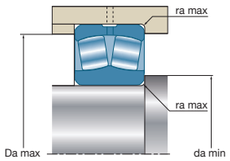
	Diameters	Overall dimensions			Designations	Fatigue load limits	Basic load ratings		Calculation factors				Reference speeds	Limiting speeds	Weights	Number of holes	Dimensions					Fitting dimensions		
							Dynamic	Static									b	k	rs	d_2	D_1	d_a	D_a	r_a
		d	D	B	Bore	Cu	C	C_0	e	Y_1	Y_2	Y_0					min					min	max	max
	mm	mm				kN	kN	kN	-	-	-	-	rpm	rpm	kg	-	mm					mm		
Cylindrical bore	40	40	90	33	22308EF800	13,7	169	152	0,36	1,87	2,79	1,83	5800	7400	1,02	3	5,9	3	1,5	52,5	77	49	81	1,5
	45	45	100	36	22309EF800	17,2	206	187	0,36	1,9	2,83	1,86	5300	6700	1,42	3	6,4	3	1,5	58	85,8	54	91	1,5
	50	50	110	40	22310EF800	20,4	250	232	0,36	1,87	2,79	1,83	4900	6100	1,83	3	7,3	3,5	2	63,8	93,8	61	99	2
	55	55	120	43	22311EF800	25,4	296	274	0,36	1,87	2,79	1,83	4600	5600	2,34	3	7,8	3,5	2	68,7	102,9	66	109	2
	60	60	110	28	22212EF800	20,8	179	171	0,24	2,84	4,23	2,78	5700	7500	1,17	3	6,9	3	1,5	71,9	98,5	69	101	1,5
	60	60	130	46	22312EF800	29,6	340	319	0,35	1,95	2,9	1,91	4300	5100	2,89	3	8,7	4	2,1	75,3	111,9	72	118	2
	65	65	140	48	22313EF800	33,9	369	343	0,33	2,06	3,06	2,01	4000	4800	3,60	3	9,2	4	2,1	81,3	121,2	77	128	2
	70	70	150	51	22314EF800	37,8	420	396	0,34	2	2,98	1,96	3800	4500	4,27	3	10,4	5	2,1	86	128,7	82	138	2
	75	75	160	55	22315EF800	43,3	491	467	0,34	2	2,98	1,96	3600	4200	5,21	3	10,5	5	2,1	91,9	138,3	87	148	2
	80	80	140	33	22216EF800	32,5	267	272	0,22	3,13	4,67	3,06	4300	5800	2,07	3	7,9	3,5	2	94,9	126,7	91	129	2
	80	80	170	58	22316EF800	47,3	541	522	0,34	2	2,98	1,96	3400	3900	6,20	3	10,5	5	2,1	98,6	147,4	92	158	2
	85	85	180	60	22317EF800	52,6	599	604	0,32	2,09	3,11	2,04	3200	3600	7,16	3	11	5	3	107,9	156,7	99	166	2,5
	90	90	190	64	22318EF800	58	668	652	0,33	2,06	3,07	2,01	3000	3500	8,50	3	11,6	5	3	110,1	165,1	104	176	2,5
	95	95	200	67	22319EF800	62,8	732	750	0,32	2,09	3,11	2,04	2800	3300	10,1	3	12,1	6	3	120	174	109	186	2,5
	100	100	180	46	22220EF800	52,6	472	495	0,24	2,84	4,23	2,78	3600	4600	5,10	3	11,2	5	2,1	118,2	160,8	112	168	2
	100	100	215	73	22320EF800	72,4	827	844	0,34	1,98	2,94	1,93	2600	3100	12,8	3	13,3	6	3	126,7	186,7	114	201	2,5
	110	110	200	53	22222EF800	64,3	602	643	0,25	2,69	4	2,63	3300	4100	7,20	3	12,2	6	2,1	130,1	178,4	122	188	2
	110	110	240	80	22322EF800	84,5	975	972	0,32	2,09	3,11	2,04	2300	2800	17,4	3	15,6	7	3	138,9	208,1	124	226	2,5
	120	120	260	86	22324EF800	98,9	1170	1280	0,32	2,09	3,11	2,04	2000	2500	22,6	3	18	8	3	156,9	224	134	246	2,5
	130	130	280	93	22326EF800	113	1330	1400	0,33	2,06	3,06	2,01	1800	2400	27,9	3	18,9	9	4	164,7	243	147	263	3
	140	140	300	102	22328EF800	129	1540	1720	0,33	2,03	3,02	1,98	1600	2200	34,9	3	18,9	9	4	181,7	260,3	157	283	3
	150	150	320	108	22330EF800	143	1740	1890	0,34	2	2,98	1,96	1500	2100	42,0	3	19,9	9	4	201	278,3	167	303	3
	160	160	340	114	22332EF800	158	1950	2210	0,33	2,03	3,02	1,98	1400	1900	50,7	3	20,3	10	4	219	295,2	177	323	3
	170	170	360	120	22334EF800	175	2200	2630	0,32	2,09	3,11	2,04	1200	1800	59,0	3	20,3	10	4	236	312,9	187	343	3
	180	180	380	126	22336EF800	190	2420	2810	0,32	2,09	3,11	2,04	1200	1700	70,2	3	20,9	10	4	241,8	328,2	197	363	3
	190	190	400	132	22338EF800	209	2600	3120	0,32	2,12	3,15	2,07	1100	1600	81,6	3	20,8	10	5	262,2	345,6	210	380	4
	200	200	420	138	22340EF800	229	2830	3530	0,31	2,15	3,2	2,1	1000	1500	95,0	3	21,1	10	5	280	363,1	220	400	4
Tapered bore	35	40	90	33	22308EKF800	13,7	169	152	0,36	1,87	2,79	1,83	5800	7400	1,02	3	5,9	3	1,5	52,5	77	49	81	1,5
	40	45	100	36	22309EKF800	17,2	206	187	0,36	1,9	2,83	1,86	5300	6700	1,42	3	6,4	3	1,5	58	85,8	54	91	1,5
	45	50	110	40	22310EKF800	20,4	250	232	0,36	1,87	2,79	1,83	4900	6100	1,82	3	7,3	3,5	2	63,8	93,8	61	99	2
	50	55	120	43	22311EKF800	25,4	296	274	0,36	1,87	2,79	1,83	4600	5600	2,32	3	7,8	3,5	2	68,7	102,9	66	109	2
	55	60	130	46	22312EKF800	29,6	340	319	0,35	1,95	2,9	1,91	4300	5100	2,87	3	8,7	4	2,1	75,3	111,9	72	118	2
	60	65	140	48	22313EKF800	33,9	369	343	0,33	2,06	3,06	2,01	4000	4800	3,45	3	9,2	4	2,1	81,3	121,2	77	128	2
	60	70	150	51	22314EKF800	37,8	420	396	0,34	2	2,98	1,96	3800	4500	4,20	3	10,4	5	2,1	86	128,7	82	138	2
	65	75	160	55	22315EKF800	43,3	491	467	0,34	2	2,98	1,96	3600	4200	5,13	3	10,5	5	2,1	91,9	138,3	87	148	2
	70	80	170	58	22316EKF800	47,3	541	522	0,34	2	2,98	1,96	3400	3900	6,10	3	10,5	5	2,1	98,6	147,4	92	158	2
	75	85	180	60	22317EKF800	52,6	599	604	0,32	2,09	3,11	2,04	3200	3600	7,06	3	11	5	3	107,9	156,7	99	166	2,5
	80	90	190	64	22318EKF800	58	668	652	0,33	2,06	3,07	2,01	3000	3500	8,38	3	11,6	5	3	110,1	165,1	104	176	2,5
	85	95	200	67	22319EKF800	62,8	732	750	0,32	2,09	3,11	2,04	2800	3300	9,95	3	12,1	6	3	120	174	109	186	2,5
	90	100	215	73	22320EKF800	72,4	827	844	0,34	1,98	2,94	1,93	2600	3100	12,6	3	13,3	6	3	126,7	186,7	114	201	2,5
	100	110	240	80	22322EKF800	84,5	975	972	0,32	2,09	3,11	2,04	2300	2800	17,2	3	15,6	7	3	138,9	208,1	124	226	2,5
	110	120	260	86	22324EKF800	98,9	1170	1280	0,32	2,09	3,11	2,04	2000	2500	22,2	3	18	8	3	156,9	224	134	246	2,5
	120	130	280	93	22326EKF800	113	1330	1400	0,33	2,06	3,06	2,01	1800	2400	27,4	3	18,9	9	4	164,7	243	147	263	3
	125	140	300	102	22328EKF800	129	1540	1720	0,33	2,03	3,02	1,98	1600	2200	34,3	3	18,9	9	4	181,7	260,3	157	283	3
	135	150	320	108	22330EKF800	143	1740	1890	0,34	2	2,98	1,96	1500	2100	41,2	3	19,9	9	4	201	278,3	167	303	3
	140	160	340	114	22332EKF800	158	1950	2210	0,33	2,03	3,02	1,98	1400	1900	50,0	3	20,3	10	4	219	295,2	177	323	3
	150	170	360	120	22334EKF800	175	2200	2630	0,32	2,09	3,11	2,04	1200	1800	58,2	3	20,3	10	4	236	312,9	187	343	3
	170	190	400	132	22338EKF800	209	2600	3120	0,32	2,12	3,15	2,07	1100	1600	79,9	3	20,8	10	5	262,2	345,6	210	380	4
	180	200	420	138	22340EKF800	229	2830	3530	0,31	2,15	3,2	2,1	1000	1500	95,0	3	21,1	10	5	280	363,1	220	400	4

REQUIREMENTS FOR YOUR APPLICATIONS SUBJECT HIGH VIBRATING

High vibration machinery (shaker screens, crushers, grinders, etc.) subject bearings to high levels of stress: heavy loads, radial acceleration, centrifugal forces, a highly polluted environment, etc. All this imposes reliability and specific resistance characteristics on the spherical roller bearings.







THESE BEARINGS ARE:

- Available with a cylindrical or tapered bore (K)
- Available with bore diameters from 40 mm to 200 mm
- Manufactured according to EF800 specifications which define the special tolerances and radial clearance of spherical roller bearings
- **Available on request for the other series and other dimensions upon request**

NTN SNR With You

Why use NTN-SNR EF800 spherical roller bearings?

CUSTOMER BENEFITS
TESTIMONY

EF800 Series is particularly suited to increase the bearing life duration in the most demanding of mine and quarry applications, as may be encountered in screeners, crushers, grinders… AND TO DECREASE MAINTENANCE COSTS.

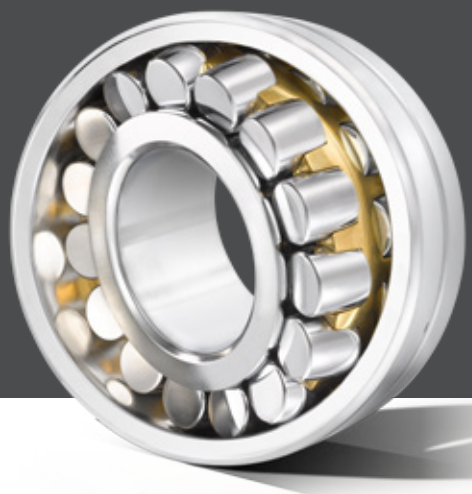
Romain DELHAYE
Quarry Manager
A2C GRANULAT

"Our installation is subject to very high production demands making availability for maintenance limited. That is why we have to fit machine components, in particular the bearings, with the most reliable and durable equipment possible.

Our aim as quarry operators is to ensure site productivity and efficiency are as high as possible. This keeps **costs down** and **limits machine downtime**.

Crushers and screeners are subject to radial stress due to the large amount of impacts and vibration. NTN-SNR has developed a special range of spherical roller bearings with brass cage : EF800 bearings.

We have seen a real **increase in productivity**, thanks to the quality of NTN-SNR EF800 series."



EXPERTS & TOOLS
ADDITIONAL TOOLS AND LUBRICATION

A MUST FOR MOUNTING / DISMOUNTING EF800 SERIES (TAPERED BORE)

HYDRAULIC NUT HMV SERIES FROM NTN-SNR

3 GOOD REASONS TO USE HYDRAULIC NUTS FROM NTN SNR

- The most professional tool to provide the drive up force required
- Precise and reliable adjustment of radial bearing clearance
- Cost effective, easy to use and secure, it will reduce your down time

Request catalogue

TOTALLY ADAPTED FOR GREASING EF800 SERIES

LUBRICATION VIB VIBRATIONS & SHOCKS FROM NTN-SNR

This grease is an ideal lubricant for parts subjected to extensive vibrations or impact. Recommended for quarries, cement plants, public works operations, high-load applications in humid, dusty and muddy environments.

STANDARD APPLICATIONS

Shafts in scoops, crushers, grinders, vibrating screeners, scalpers, feeders, washing machines, industrial fans, etc.

BENEFITS

Excellent resistance to impact, vibrations and heavy loads, excellent resistance to water guaranteeing long-term lubrication.

TEMPERATURE RANGE

From -20°C to +140°C.

Request catalogue

EASY DISMOUNTING FOR EF800 TO AVOID FRETTING CORROSION

ANTI-FRETTING PASTE

The NTN-SNR anti-fretting paste is specially designed to prevent contact rust between 2 metal surfaces.

COMMERCIAL REFERENCES

LUB ANTI FRETTING PASTE / T 60G
LUB ANTI FRETTING PASTE / B 750G

DOC.I_EF800_ARG1_GBa - SAP: 374 505 - Non contractual document - NTN-SNR Copyright International 02/2017 Printed in France - Photos : Pedro Studio Photo

NTN-SNR ROULEMENTS - 1 rue des Usines - 74000 Annecy
RCS ANNECY B 325 821 072 - Code APE 2815Z - Code NACE 28.15
www.ntn-snr.com

NTN SNR With You