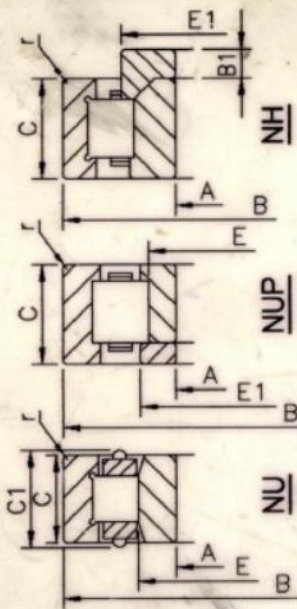


## BEARINGS



**NOTES: -**

1. SUPPLIER TO FURNISH INFORMATION EVERY TIME WITH OFFERS AS PER C450067(SHEET i).  
2. ITEM 021 & 022 ARE FOR DEVELOPMENT PURPOSE- AND CAN BE USED WITH PRIOR PERMISSION OF- ENGG. DIVISION.

REVISION STAND	REV. NO.	IT. 035 & 036 ADDED.	<i>one</i>
	43		
	8.6.18		
	REV NO	IT. 022 & 023, M/C REF. AND ASSY. DRG. REF.	
	42	ADDED. IT 033 & 034 RIVETLESS BEARING	
	17.8.16	DELETED.	<i>one</i>
	REV NO	IT. 033, 034 ADDED, NOTE-3 ADDED	
	41		<i>3/4</i>
	26.05.15		
	REV NO	IN BOM IT. 023, ASSY. REF. 14394388001	
	40	CHANGED TO 04394328002.	
	22.11.15		<i>22.5.15</i>
	REV NO	M/C REF. TM 4303 (PE), DRG. NO. -	
	39	04394328002 WAS NOT ON.	
	REV NO	IN ITEM 29, M/C REF. TM 3701 (CE), DRG. NO.	
	39	14394431001 & STYLE NO. BL 3024706769 ADDED. IN	
	23.12.14	ITEM 32, DRG. NO. 1439433104 & STYLE NO.	<i>OK</i>
		BL 3024663036 ADDED. - CONTD -	
	REV NO	NOTE-2 WAS ON. MACHINE REF. TM 4906,	
	38	TM 4907 & 165M DELETED FROM ITS. 001,	
	26.11.14	002, 024, AND REF. ADDED IN TTS, 021, 022.	
	REV NO	M/C REF. TA10102 & TA10106 AND DRG. REF.	
	37	24304423002 DELETED FROM IT. 001 &	
	26.9.14	ADDED TO IT. 021. <i>Revised</i>	
	REV NO	IN BOM IT. 001 DIM. 193 WAS 190.	
	36	DT. 05-05-12 <i>mtg</i>	<i>Mumukshu</i>
	REV NO	M/C REF. TA10102 & TA10106 AND DRG. REF.	
	35	24304423002 DELETED FROM IT. 021 AND	
		ADDED TO IT. 001. <i>20th 5/11</i>	<i>OK</i>
	REV NO	IT. NO. 32 WAS NOT ON. DT. 26.05.08	
	34		<i>in 2008</i>
	REV NO	IT NOS 30 & 31 WERE NOT ON. VALUE OF 'Y'	
	33	FOR IT. 5 WAS 5, M/C REF. TA7003, TA6301 & OA7001	
		& THEIR ASSY. REF. ADDED FOR IT. 005. M/C REF. & ASSY. REF.	
		TA10102 & 32 FOR IT. 001 WAS ON. TA10102 & TA10106 ADDED FOR	
	REV NO	IT. NO 30 WAS NOT ON.	
	32		

I.T. NO.	BEARING NO.	MACHINE REF.	ASSY. DRG. REF.	STYLE NO. CODE NO.	BOUNDARY DIMENSIONS							CLEARANCE		MAX. SPEED OVER SPEED	DYNAMIC LOAD(N) STATIC LOAD(N)	
					A	B	C	E	E1	B1	C1	r	DIA.			AXIAL
1	NJ330 EM/C4	TM4906 +65M(PE) TM4939 TG10931AZ TG10919AZ	04394001001 G250 04314016001 04304059001	-	150.000 149.975	320.000 319.960	65.00 64.75	193	-	-	65	5	0.165 0.215	0.000 0.000	2275 2250	781000 965000
2	NJ320+ HJ320 (NH320EM/C4)	TM4906 +65M(GE) TM4939	04394001001 G250	-	100.000 99.980	215.000 214.970	47.001 46.80	-	140	13	-	4	0.105 0.140	0.210 0.405	2275 2750	391000 440000
3	NJ418EM/C4 133AW 133AZ(PE)	TM3603 133AW 133AZ(PE)	H022(9) G791(29)	BP7211553987	90.000 89.980	225.000 224.970	54.00 53.80	123.5	-	-	-	5	0.105 0.140	0.000 0.000	2320 3000	380000 415000

ISSUED (O.P. VERMA) SD/-	ISSUED BY:- TME (405)
APPD (A.K. DAS) SD/-	DISTRIBUTION:-
CHANGES TO BE APPD BY DIVISIONAL STDS ENGR ONLY	TME -1 , TNX -1 TAM -3 , TXM -3

BHARAT HEAVY ELECTRICALS LIMITED  
BHOPAL

SCALE: -NTS

C450068 (SH.1 OF 5)



182808(1)/2021/HEP-TXM20500

## DIVISIONAL STANDARD

C450068 (SH.2 OF 5)

BEARINGS																	
I.T. NO.	BEARING NO.	MACHINE REF.	ASSY. DRG. REF.	STYLE NO. CODE NO.	BOUNDARY DIMENSIONS						CLEARANCE		MAX. SPEED OVER SPEED	DYNAMIC LOAD(N) STATIC LOAD(N)			
					A	B	C	E	E1	B1	C1	r			DIA.	AXIAL	
4	NJ315BM+ HJ315 (NH31BM/C4)	TM3601 133AW(CE)	G314 G017 H022	BP7211534966	75.000 74.985	160.000 159.975	37.00 36.85	-	104	11	-	-	3.5	0.090 0.125	0.120 0.320	2320 3000	242000 265000
5	NJ326EM/C4  VA-301	TM4601 TM4603 TM4605 TM4606 TM4501 TA7003(PE) TA6301(PE) OA7001(PE)	24394337001 24394341001 24394341001 24394341001 24394341001 34304341002 34304341002 34304341002	BP7211532890	130.000 129.975	280.000 279.965	58.00 57.75	167	-	-	-	-	4	0.145 0.190	0.000 0.000	2800 3500	627000 750000
6	NUP318EM/C4	TM301 TM4601 TM4603 TM4605 TM4606	G134, G083 24394437002 24394441003 24394441003 24394441003	BP7211538996	90.000 89.980	190.000 189.970	43.000 42.800	115	125	-	-	-	3	0.105 0.140	0.205 0.385	2800 3500	319000 360000
7	NJ322EM/C4	TM3601(PE)	G426(28) G410(28)	BP7211532874	110.000 109.98	240.000 239.97	50.00 49.98	143	-	-	-	-	4	0.125 0.165	0.000 0.000	2320 3000	468000 540000
8	NJ413M+ HJ413 (NH413M/C4)	TM3603AZ(CE)	H4505022	BP7211555988	65.000 64.985	160.000 159.975	37.00 36.85	-	98.5	11	-	-	3.5	0.080 0.110	0.120 0.250	2725 3850	183000 190000
9	NJ328EM/C4	TM4301(PE) TM5002AZ(PE) TAO 659(PE)	24394302002 14394327001 24394355003	BP7211532904	140.000 139.975	300.000 299.965	62.00 61.75	180	-	-	-	-	5	0.145 0.190	0.000 0.000	2470 3350	682000 830000
10	NJ314EM/C4 (BRASS CAGE ONLY)	AG3101(PE) PTU 70 AZ (DE)	H 048(20) 14341021001	BP7211532866	70.000 69.985	150.000 149.982	35.00 34.85	90	-	-	-	-	3.5	0.090 0.110	0.000 0.000	2380 3000	205000 228000
11	NJ320EM/C4	G320(PE)	04394038001 (13)	BP7211532866	100.000 99.980	215.000 214.970	47.00 46.88	127.5	-	-	-	-	3	0.105 0.140	0.000 0.000	2097 2620	319000 440000

FOR LATEST REVISION,REFER SHEET NO.1

## BEARINGS

FOR LATEST REVISION, REFER SHEET NO. 1

ISSUED (O.P. VERMA)

SD/-

PPD (A.K. DAS)

SD/-

CHANGES TO BE APPD BY  
DIVISIONAL STDS ENGR ONLY

ISSUED BY:- TME (405)

DISTRIBUTION:-

TME -1, TNX -1  
TAM -3, TXM -3BHARAT HEAVY ELECTRICALS LIMITED  
BHOPAL

SCALE:-NTS

C450068 (SH.2 OF 5)



182808(1)/2021/HEP-TXM20500

## DIVISIONAL STANDARD

C450068 (SH.3 OF 5)

## BEARINGS

BEARINGS																	
I.T. NO.	BEARING NO.	MACHINE REF.	ASSY.DRG. REF.	STYLE NO. CODE NO.	BOUNDARY DIMENSIONS							CLEARANCE		MAX. SPEED OVER SPEED	DYNAMIC LOAD(N) STATIC LOAD(N)		
					A	B	C	E	E1	B1	C1	r	DIA.			AXIAL	
12	NJ312 +HJ312 (NH312EQMC4)	G320(CE)	04394038001 (34)	BP7211534958	60.000 59.985	130.000 129.982	31.00 30.88	-	-	-	-	-	2.1	0.080 0.110	0.150 0.250	2097 2620	151000 160000
13	NU324M/C4	TM3701(PE)	14394331001	BP7211532882	120.000 119.980	260.000 259.965	55.00 54.80	154	-	-	-	-	3	0.105 0.160	0.000 0.000	2600 3200	539000 620000
14	NH318MC4 EX26	TM3701(CE) TM5002AZ TAO 659(CE)	14394431001 24394427002 24394455002	BP7211534974	90.000 89.980	190.000 189.970	43.00 42.98	165	-	-	-	-	3	0.090 0.140	0.205 0.385	2753 3200	319000 360000
15	NU446826 W2/W23B	TM4501(PE)	34394353002		130.000 129.975	280.000 279.965	58.00 57.75	167	-	-	-	-	5	0.145 0.190	0.000 0.000	3100 3800	627000 750000
16	NH324 EMACG175	HS15250(CE)	14394460003	BP7211534990	119.998 119.985	260.000 259.075	55.00 54.88	154	168.5	14.0	-	-	4	0.165 0.205	0.260 0.475	2200 2800	475000 550000
17	NU330 EMA/C:188	HS15250(PE)	14394360003	BP7211532920	149.998 149.982	320.000 319.972	65.00 64.75	193	-	-	-	-	4	0.165 0.210	0.000 0.000	2200 2800	715000 855000
18	NH309C4	MG51CW ME	24414433003	-	45.00 44.988	100.00 99.985	25.00 24.88	-	64	7.0	-	-	1.5	0.070 0.100	0.12 0.18	1320 2400	79000 77500
19	SKF NU2236 EMRDC4 VA301 FAG NU2236 E 801488	6FRA6068 (DE)	14454364001	-	180.00 179.975	320.00 319.972	86 85.75	215	-	-	-	-	4	0.170 0.220	0.000 0.000	2584 3230	1010000 1500000
FOR LATEST REVISION, REFER SHEET NO. 1																	

FOR LATEST REVISION, REFER SHEET NO. 1

ISSUED (D.P.VERMA)  
SD/-

PPD (A.K.DAS)  
SD/-

CHANGES TO BE APPD BY  
VISIONAL STDS ENGR ONLY

ISSUED BY:- TME(405)

DISTRIBUTION:-

TME -1, TNX -1

TAM -3, TXM -3

BHARAT HEAVY ELECTRICALS LIMITED

BHOPAL

SCALE:-NTS

C450068 (SH.3 OF 5)



182808(1)/2021/HEP-TXM20500

## DIVISIONAL STANDARD

C450068 (SH.4 OF 5)

## BEARINGS

BEARINGS																
I.T. NO.	BEARING NO.	MACHINE REF.	ASSY.DRG. REF.	STYLE NO. CODE NO.	BOUNDARY DIMENSIONS							CLEARANCE		MAX. SPEED OVER SPEED	DYNAMIC LOAD(N) STATIC LOAD(N)	
					A	B	C	E	E1	B1	r	DIA.	AXIAL			
20	SKF NJ320 ECM C4 VA 309+HJ320 EC VA 301  FAG NJ320 EM 1 C4 F1 J 20 A +HJ320EF1	6FRA6068 (NDE)	14454464002	-	100.000 99.980	215.00 214.97	47.001 46.80	-	140	13	-	4	0.105 0.140	0.210 0.405	2584 3230	391000 440000
21	NJ330/ECMRD/ C4/VA301 (CYL CAGE PROFILE)	TM4906AZ (PE) <del>TM4907</del> <del>TA10102</del> <del>TA10106</del>	04394001001  <del>24304423002</del>	9024684307	150.000 149.975	320.000 319.960	65.00 64.75	190	-	-	65	5	0.165 0.215	0.000 0.000	2275 2250	781000 965000
22	NH320/ECMRD/ C4P/VA301 (CYL CAGE PROFILE)	TM4906AZ (CE) <del>TM4303CE</del> <del>TM4907</del> <del>TM4303</del> (CE)	04394001001 <del>14394423002</del> <del>14394423002</del>	9024684315  <del>9024752523</del>	100.000 99.980	215.000 214.970	47.001 46.80	-	140	13	-	4	0.105 0.140	0.120 0.320	2275 2750	391000 440000
23	NJ328/ECMRD/ C4/VA301 RIVETLESS	TM5002 (PE) <del>TM4303 (PE)</del> <del>TM4701AZ</del> <del>TM4303 (PE)</del>	14394327001 <del>04394328002</del>	9024706084	140.000 139.975	300.000 299.965	62.0 61.75	180	-	-	-	5	0.145 0.190	-	2470 3350	682000 830000
24	NH320ECP/C4 POLYAMIDE CAGE	<del>TM4907</del> <del>TM4906</del>	04394001001	9024752531	100.000 99.980	215.000 214.970	47.001 46.80	-	140	13	-	4	0.105 0.140	0.210 0.405	2275 2750	391000 440000
25	NU2332ECMC4 VA301	TA10103AZ	24304490001	9024697573	160.000 159.975	340.000 339.96	114.000 113.75	-	-	-	-	4	0.165 0.215	-	-	1320000 1830000
26	N332-ECM-SRL 340-370-VA309 TO DIN43283 (OIL LUBRICATED ELECTRICALLY INSULATED)	IM4507 (DE)	24454392002	9024720125	160.000 159.975	340.000 339.96	68.000 67.85	-	-	-	-	4	0.165 0.215	-	-	865000 1060000

FOR LATEST REVISION, REFER SHEET NO. 1

FOR LATEST REVISION, REFER SHEET NO. 1

ISSUED (O.P. VERMA)  
SD/-

PPD (A.K. DAS)  
SD/-

CHANGES TO BE APPD BY  
VISIONAL STDS ENGR ONLY

ISSUED BY:- TME (405)

DISTRIBUTION:-  
TME -1, TNX -1  
TAM -3, TXM -3

BHARAT HEAVY ELECTRICALS LIMITED  
BHOPAL

SCALE:-NTS

C450068 (SH.4 OF 5)



DIVISIONAL STANDARD										C450068 (SH.5 OF 5)									
										BEARINGS									
I.T. NO.	BEARING NO.	MACHINE REF.	ASSY. DRG. REF.	STYLE NO. CODE NO.	BOUNDARY DIMENSIONS						CLEARANCE		MAX. SPEED OVER SPEED	DYNAMIC LOAD(N) STATIC LOAD(N)					
					A	B	C	E	E1	B1	r	C1			DIA.	AXIAL			
27	NU1964 M1 A C4 TOLERANCE TO DIN620	6FRA6068 SUSPENSION DE	04451564002	9024726271	319.990 319.960	439.985 439.955	55.9 55.6	-	-	-	-	3	0.305 0.385	-	580000 1050000				
28	NJ1044- 566185 CAGE M1 RAD CL-C4 HJ1044 F 55 TOLERANCE TO DIN620	6FRA6068 SUSPENSION NDE	04451564002	9024726280	220.000 219.970	340.00 339.96	56.00 55.7	-	261.7	-	14	3	0.220 0.280	-	510000 765000				
29	NH318 ECMRD/ C4 VA 301 (CYL CAGE PROFILE)	TM5002AZ(CE) TM4701AZ(CE) TM3701 (CE)	24394427002 24394488002 14394431 001	BL 9D24 706769	90.00 89.980	190.00 189.970	43.00 42.98	165	-	-	-	3	0.090 0.140	0.205 0.385	319000 360000				
30	NH324EM/C4 VA-301	TA-7003 BX(NDE)			120.000 119.980	260.000 259.965	55	-	168	14		3	0.125 0.165	0.260 0.475	1900 539000 2200 620000				
31	NH326EM/C4 VA-301	TA7003AZ AY (NDE)	34304473001		130.000 129.975	280.000 279.965	58.00 57.75	-	182	14	-	4	0.145 0.190	0.260 0.475	1800 2160 627000 750000				
32	NU328AECM R3/CAVA301 RIVETLESS (CYL. CAGE PROFILE)	TM3701 (PE)	14394331104	BL 902467366	120.000 119.980	240.000 239.965	55.00 54.80	154	-	-	-	3	0.105 0.160	0.000 0.000	2600 3200 539000 620000				
33	NU328ECM/ C4(RIVETED)	TM4303(CE)	04391328002	BP902471802 (RIVETED)	140.000 139.975	300.000 299.965	62.0 61.75	180	-	-	-	5	0.145 0.190	-	2470 3350 682000 830000				
34	NH320ECM/ C4(RIVETED)	TM4303(CE)	14394331104	BP902471802 (RIVETED)	120.000 119.980	240.000 239.965	55.00 54.80	154	-	-	-	3	0.105 0.160	0.000 0.000	2600 3200 539000 620000				
35	NU324 ECMRA /C4 VA301	IM3601AZ IM3301AZ/BZ IM3302	24454303001		120.000 119.980	240.000 239.965	55.00 54.80	154	-	-	-	3	0.105 0.160	0.000 0.000	2600 3200 539000 620000				
36	NH318 ECMRA/ C4 VA3091 (INSULATED)	IM3601AZ IM3301AZ/BZ IM3302	24454403001 24454409001		90.00 89.980	190.00 189.970	43.00 42.98	165	-	-	-	3	0.090 0.140	0.205 0.385	319000 360000				

FOR LATEST REVISION, REFER SHEET NO. 1

ISSUED (CO.P.VERMA)  
SD/-

ISSUED BY:- TME(405)

APPD (CA.K.DAS)  
SD/-

DISTRIBUTION:-  
TME -1 , TNX -1  
TAM -3 , TXM -3

CHANGES TO BE APPD BY  
DIVISIONAL STDS ENGR ONLY

BHARAT HEAVY ELECTRICALS LIMITED  
BHOPAL

SCALE:-NTS

C450068(SH.5 OF 5)

FOR LATEST REVISION, REFER SHEET NO. 1

ISSUED (CO.P.VERMA) SD/-	ISSUED BY:- TME(405)	BHARAT HEAVY ELECTRICALS LIMITED BHOPAL	
APPD (CA.K.DAS) SD/-	DISTRIBUTION:- TME -1 , TNX -1 TAM -3 , TXM -3		
CHANGES TO BE APPD BY DIVISIONAL STDS ENGR ONLY		SCALE:-NTS	C450068(SH.5 OF 5)