

Technical Center	Drawn by	Signature	Date	Approved by	Signature	Date	Rev
PAGE 1/6	O. INOCENTE		2024-02-05	J. GOYER		2024-02-05	E

**BOLT
BI HEXAGONAL HEAD
INCONEL718, 220 KSI**

BA3360

1. Dimensions, Tolerances

Table 1 : Dimensions and tolerances (Dimensions in mm)

DIA DASH NO.	THREAD SIZE UNJF-3A	ØC	ØD	E min	ØG	H ±0,25	J 0,25 -0,76	M ±0,12	N ±0,12	P min	Q ±0,25	R	T REF
4	.2500-28	11,12 10,87	6,337 6,312	3,43	7,92 7,54	7,62	4,57	1,57	0,94	8,81	1,75	1,04 0,79	11,95
5	.3125-24	13,49 13,23	7,925 7,899	4,12	9,52 9,14	8,84	5,46	1,78	1,40	10,64	2,08		14,80
6	.3750-24	16,48 16,23	9,512 9,487	5,00	11,10 10,72	9,85	6,60			12,47	2,31	1,45 1,20	16,30
7	.4375-20	19,05 18,8	11,099 11,074	5,79	12,70 12,32	11,05	8,13			14,25	2,54		18,90
8	.5000-20	21,03 20,78	12,687 12,661	6,45	14,27 13,90	12,80	9,65			16,03	3,12		20,95
9	.5625-18	23,82 23,57	14,262 14,236	7,29	15,87 15,50	14,15	11,18	2,39		17,86	3,38	1,85 1,60	23,60
10	.6250-18	26,67 26,42	15,849 15,824	8,31	17,45 17,07	15,70	12,70			19,69	3,81		25,15
12	.7500-16	31,24 30,99	19,024 18,999	9,65	20,62 20,24	18,06	14,48			23,29	4,47		30,00
14	.8750-14	36,52 36,27	22,199 22,174	11,13	23,80 23,42	20,52	16,51			26,90	5,03		35,08
16	1.0000-12	41,27 41,02	25,374 25,349	12,52	26,97 26,59	23,44	18,80	3,17		30,49	5,64		40,26

Table 1: Dimensions and tolerances (continued)

DIA DASH NO.	THREAD SIZE UNJF-3A	U REF	W	X	Y
4	.2500-28	1,02	7,95 7,72	0,127	0,114
5	.3125-24	1,27	9,55 9,32	0,152	
6	.3750-24		11,15 10,92	0,203	
7	.4375-20	1,52	12,75 12,50	0,228	0,152
8	.5000-20		14,32 14,05	0,254	
9	.5625-18	1,78	15,92 15,65	0,279	
10	.6250-18		17,52 17,24	0,305	
12	.7500-16	2,03	20,67 20,40	0,381	0,229
14	.8750-14	2,29	23,87 23,57	0,457	
16	1.0000-12	2,54	27,02 26,72	0,508	

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Table 2 : Grips and Lengths - dimension in mm

GRIP CODE**	GRIP +/- 0,25	L +/- 0,381									
		4	5	6	7	8	9	10	12	14	16
4	6,350	18,30	21,15	22,65	25,25	27,30	29,95	31,50	36,35	41,43	46,61
6	9,525	21,48	24,33	25,83	28,43	30,48	33,13	34,68	39,53	44,61	49,79
8	12,700	24,65	27,50	29,00	31,60	33,65	36,30	37,85	42,70	47,78	52,96
10	15,875	27,83	30,68	32,18	34,78	36,83	39,48	41,03	45,88	50,96	56,14
12	19,050	31,00	33,85	35,35	37,95	40,00	42,65	44,20	49,05	54,13	59,31
14	22,225	34,18	37,03	38,53	41,13	43,18	45,83	47,38	52,23	57,31	62,49
16	25,400	37,35	40,20	41,70	44,30	46,35	49,00	50,55	55,40	60,48	65,66
18	28,575	40,53	43,38	44,88	47,48	49,53	52,18	53,73	58,58	63,66	68,84
20	31,750	43,70	46,55	48,05	50,65	52,70	55,35	56,90	61,75	66,83	72,01
22	34,925	46,88	49,73	51,23	53,83	55,88	58,53	60,08	64,93	70,01	75,19
24	38,100	50,05	52,90	54,40	57,00	59,05	61,70	63,25	68,10	73,18	78,36
26	41,275	53,23	56,08	57,58	60,18	62,23	64,88	66,43	71,28	76,36	81,54
28	44,450	56,40	59,25	60,75	63,35	65,40	68,05	69,60	74,45	79,53	84,71
30	47,625	59,58	62,43	63,93	66,53	68,58	71,23	72,78	77,63	82,71	87,89
32	50,800	62,75	65,60	67,10	69,70	71,75	74,40	75,95	80,80	85,88	91,06
34	53,975	65,93	68,78	70,28	72,88	74,93	77,58	79,13	83,98	89,06	94,24
36	57,150	69,10	71,95	73,45	76,05	78,10	80,75	82,30	87,15	92,23	97,41
38	60,325	72,28	75,13	76,63	79,23	81,28	83,93	85,48	90,33	95,41	100,59
40	63,500	75,45	78,30	79,80	82,40	84,45	87,10	88,65	93,50	98,58	103,76
42	66,675	78,63	81,48	82,98	85,58	87,63	90,28	91,83	96,68	101,76	106,94
44	69,850	81,80	84,65	86,15	88,75	90,80	93,45	95,00	99,85	104,93	110,11
46	73,025	84,98	87,83	89,33	91,93	93,98	96,63	98,18	103,03	108,11	113,29
48	76,200	88,15	91,00	92,50	95,10	97,15	99,80	101,35	106,20	111,28	116,46
50	79,375	91,33	94,18	95,68	98,28	100,33	102,98	104,53	109,38	114,46	119,64
52	82,550	94,50	97,35	98,85	101,45	103,50	106,15	107,70	112,55	117,63	122,81
54	85,725	97,68	100,53	102,03	104,63	106,68	109,33	110,88	115,73	120,81	125,99
56	88,900	100,85	103,70	105,20	107,80	109,85	112,50	114,05	118,90	123,98	129,16
58	92,075	104,03	106,88	108,38	110,98	113,03	115,68	117,23	122,08	127,16	132,34

*** Intermediate grips should be designed in 1/16 inch increment if necessary*

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Table 2 : Grips and Lengths - dimension in mm (continued)

LENGTH CODE**	GRIP +/- 0,25	L +/- 0,381									
		4	5	6	7	8	9	10	12	14	16
60	95,250	107,20	110,05	111,55	114,15	116,20	118,85	120,40	125,25	130,33	135,51
62	98,425	110,38	113,23	114,73	117,33	119,38	122,03	123,58	128,43	133,51	138,69
64	101,600	113,55	116,40	117,90	120,50	122,55	125,20	126,75	131,60	136,68	141,86
66	104,775	116,73	119,58	121,08	123,68	125,73	128,38	129,93	134,78	139,86	145,04
68	107,950	119,90	122,75	124,25	126,85	128,90	131,55	133,10	137,95	143,03	148,21
70	111,125	123,08	125,93	127,43	130,03	132,08	134,73	136,28	141,13	146,21	151,39
72	114,300	126,25	129,10	130,60	133,20	135,25	137,90	139,45	144,30	149,38	154,56
74	117,475	129,43	132,28	133,78	136,38	138,43	141,08	142,63	147,48	152,56	157,74
76	120,650	132,60	135,45	136,95	139,55	141,60	144,25	145,80	150,65	155,73	160,91
78	123,825	135,78	138,63	140,13	142,73	144,78	147,43	148,98	153,83	158,91	164,09
80	127,000	138,95	141,80	143,30	145,90	147,95	150,60	152,15	157,00	162,08	167,26
82	130,175	142,13	144,98	146,48	149,08	151,13	153,78	155,33	160,18	165,26	170,44
84	133,350	145,30	148,15	149,65	152,25	154,30	156,95	158,50	163,35	168,43	173,61
86	136,525	148,48	151,33	152,83	155,43	157,48	160,13	161,68	166,53	171,61	176,79
88	139,700	151,65	154,50	156,00	158,60	160,65	163,30	164,85	169,70	174,78	179,96
90	142,875	154,83	157,68	159,18	161,78	163,83	166,48	168,03	172,88	177,96	183,14
92	146,050	158,00	160,85	162,35	164,95	167,00	169,65	171,20	176,05	181,13	186,31
94	149,225	161,18	164,03	165,53	168,13	170,18	172,83	174,38	179,23	184,31	189,49
96	152,400	164,35	167,20	168,70	171,30	173,35	176,00	177,55	182,40	187,48	192,66

***Intermediate grips should be designed in 1/16 inch increment if necessary*

2. Material and finish

Table 3: Material and finish

CODE	MATERIAL	FINISH / LUBRIFICATION
-	INCONEL 718 AMS5662 or AMS5962 220 KSI	Passivated per AMS2700
A		IVD per MIL-DTL-83488 type II class 3 and cetyl alcohol lube per MIL-L-87132
S		HI-KOTE™ 1NC aluminum pigmented coating per NAS4006 or Hi-Shear Spec. 294

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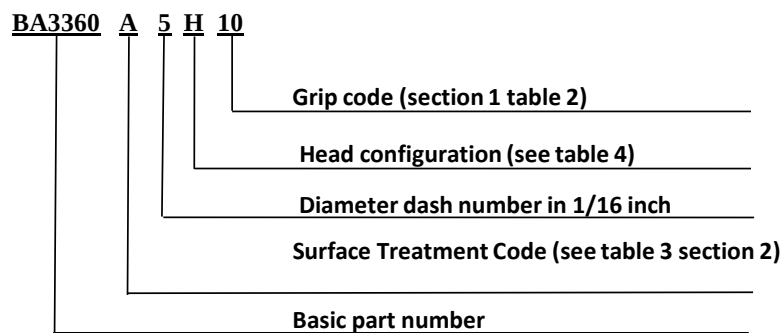
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3. Designation

Table 4 : Head configuration

Head configuration code :	
H	drilled head
-	no cross holes

Example of part number to be used:



4. Marking

Per EN2424 class B : Part identification "BA3360" with diameter code and manufacturer's identification

5. Technical Specification

Per NASM85604, except for the operating temperature of the bolt head forging and the thread rolling.
It shall be defined to not adversely affect performances of the finished parts.
Packaging as per NAS4008.

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BI HEXAGONAL HEAD

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Revision Date	Name	Modifications
- 07/09/06	Y.DOUARD	New document
A 24SEPT2008	R.LEMERCIER	“Code A : IVD per NAS4006 and cetyl alcohol lube per MIL-L-87132” added Dimension F on figure 1 deleted
B 15/05/2014	M.KHALIJ	Grips table added Tolerance for L and G modified Technical specification modified LISI address modified
C 30/10/2014	M.KHALIJ	Example of designation (paragraph 3) was wrong : the diameter dash number was missing.
D 2021-11-17	M.KHALIJ	IVD per NAS4006 become IVD per MIL-DTL-83488 type II class 3 S code added
E 2024-02-05	O. INOCENTE	Packaging requirement modified in section 5.