ASME B18.6.9-2010

Wing Nuts (Inch Series)

AN AMERICAN NATIONAL STANDARD

The American Society of Mechanical Engineers

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SETTING THE STANDARD

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Date of Issuance: March 31, 2010

This Standard will be revised when the Society approves the issuance of a new edition. There will be no addenda issued to this edition.

ASME issues written replies to inquiries concerning interpretations of technical aspects of this Standard. Periodically certain actions of the ASME B18 Committee may be published as Cases. Cases and interpretations are published on the ASME Web site under the Committee Pages at http://cstools.asme.org as they are issued.

The American Society of Mechanical Engineers
Three Park Avenue, New York, NY 10016-5990

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FOREWORD

This Standard replaces ASME B18.17, Wing Nuts, Thumb Screws, and Wing Screws, which was originally published in 1968 and reaffirmed in 1983. ASME B18 Subcommittee 6 undertook a complete rewrite in 2004 that was concluded in 2009. ASME B18.17 has been withdrawn, and ASME B18.6.9 is now the only inch series Standard for wing nuts.

This Standard was approved by the American National Standards Institute on February 3, 2010.

ASME B18 COMMITTEE
Standardization of Bolts, Nuts, Rivets, Screws, Washers, and Similar Fasteners

(The following is the roster of the Committee at the time of approval of this Standard.)

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General. ASME Standards are developed and maintained with the intent to represent the consensus of concerned interests. As such, users of this Standard may interact with the Committee by requesting interpretations, proposing revisions, and attending Committee meetings. Correspondence should be addressed to:

Secretary, B18 Standards Committee
The American Society of Mechanical Engineers
Three Park Avenue
New York, NY 10016-5990
http://go.asme.org/Inquiry

Proposing Revisions. Revisions are made periodically to the Standard to incorporate changes that appear necessary or desirable, as demonstrated by the experience gained from the application of the Standard. Approved revisions will be published periodically.

The Committee welcomes proposals for revisions to this Standard. Such proposals should be as specific as possible, citing the paragraph number(s), the proposed wording, and a detailed description of the reasons for the proposal, including any pertinent documentation.

Proposing a Case. Cases may be issued for the purpose of providing alternative rules when justified, to permit early implementation of an approved revision when the need is urgent, or to provide rules not covered by existing provisions. Cases are effective immediately upon ASME approval and shall be posted on the ASME Committee Web page.

Requests for Cases shall provide a Statement of Need and Background Information. The request should identify the standard, the paragraph, figure or table number(s), and be written as a Question and Reply in the same format as existing Cases. Requests for Cases should also indicate the applicable edition(s) of the standard to which the proposed Case applies.

Interpretations. Upon request, the B18 Standards Committee will render an interpretation of any requirement of the Standard. Interpretations can only be rendered in response to a written request sent to the Secretary of the B18 Standards Committee.

The request for an interpretation should be clear and unambiguous. It is further recommended that the inquirer submit his/her request in the following format:

Subject: Cite the applicable paragraph number(s) and the topic of the inquiry.
Edition: Cite the applicable edition of the Standard for which the interpretation is being requested.
Question: Phrase the question as a request for an interpretation of a specific requirement suitable for general understanding and use, not as a request for an approval of a proprietary design or situation. The inquirer may also include any plans or drawings that are necessary to explain the question; however, they should not contain proprietary names or information.

Requests that are not in this format may be rewritten in the appropriate format by the Committee prior to being answered, which may inadvertently change the intent of the original request.

ASME procedures provide for reconsideration of any interpretation when or if additional information that might affect an interpretation is available. Further, persons aggrieved by an interpretation may appeal to the cognizant ASME Committee or Subcommittee. ASME does not "approve," "certify," "rate," or "endorse" any item, construction, proprietary device, or activity.

Attending Committee Meetings. The B18 Standards Committee regularly holds meetings that are open to the public. Persons wishing to attend any meeting should contact the Secretary of the B18 Standards Committee.

WING NUTS (INCH SERIES)

1 INTRODUCTION

1.1 Scope

This Standard covers complete general and dimensional data for nine various types and styles of wing nuts. Thumb screws and wing screws, recognized as American National Standard, are included in ASME B18.6.8.

The inclusion of dimensional data in this Standard is not intended to imply that all the products described are stock production sizes. Purchasers should consult with suppliers concerning availability of products.

1.2 Comparison With ISO Standards

There are no ISO standards at this time.

1.3 Dimensions

All dimensions are in inch units. When specifying normal sizes, decimal zeros in the fourth place shall be omitted.

1.4 Terminology

For definitions of terms, other than those defined below, relating to fasteners or components thereof used in this Standard, see ASME B18.12.

wing nuts: a nut having wings designed for manual turning without driver or wrench. The wing nuts covered by this Standard are classified, first, by type, on the basis of the method of manufacture; and second, by style, on the basis of design characteristics. They consist of the following:

Type A: cold forged or cold formed solid nuts having wings of moderate height. In some sizes, they are produced in regular, light, and heavy series to best suit the requirements of specific applications. Dimensions are given in Table 1.

Type B: hot forged solid nuts available in two wing styles: Style 1, having wings of moderate height; and Style 2, having high wings. Dimensions are given in Table 2 and Table 3, respectively.

Type C: die cast solid nuts and are available in three wing styles: Style 1, having wings of moderate height; Style 2, having low wings; and Style 3, having high wings. In some sizes, the Style 1 nuts are produced in regular and heavy series to best suit the requirements of specific applications. Dimensions are given in Tables 4, 5, and 6 for the respective styles.

Type D: stamped sheet metal nuts and are available in three styles: Style 1, having wings of moderate height; Style 2, having low wings; and Style 3, having wings of moderate height and a larger bearing surface. In some sizes, Style 2 and Style 3 nuts are produced in regular, light, and heavy series to best suit the requirements of specific applications. Dimensions are given in Tables 7, 8, and 9 for the respective styles.

1.5 Referenced Documents

ASME B1.1, Unified Inch Screw Threads (UN and UNR Thread Form)

ASME B1.3, Screw Thread Gaging Systems for Dimensional Acceptability — Inch and Metric Screw Threads (UN, UNR, UNJ, M, and MJ)

ASME B18.12, Glossary of Terms for Mechanical Fasteners

ASME B18.18.2, Inspection and Quality Assurance for High-Volume Machine Assembly Fasteners

Publisher: The American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016-5990; Order Department: 22 Law Drive, P.O. Box 2900, Fairfield, NJ 07007 (www.asme.org)

2 GENERAL DATA

2.1 Design

Except for bearing surfaces, the details of contour shall be optional with the manufacturer, provided the specified overall dimensions are maintained.

2.2 Bearing Surface

The bearing surface of all types of wing nuts shall be at right angles to the axis of the threaded hole within a tolerance of 3 deg. The bearing surface shall be free from burrs, fins, and protruding surface irregularities.

2.3 Options

Options, where specified, shall be at the discretion of the manufacturer, unless otherwise agreed upon by the manufacturer and the user.

2.4 Threads

Threads shall be in conformance with ASME B1.1, Class 2B, for all types of wing nuts except Type D, which shall be Class 2B with a modified minor diameter. Because of the method of manufacture, the minor diameter of the thread in Type D nuts may be larger than the Class 2B maximum size, but in no case shall the minor diameter exceed the minimum pitch diameter size. Thread acceptability shall be determined using ASME B1.3, System 21.

2.5 Material

The materials applicable to the various wing nut types shall be as specified in the following paragraphs.

2.5.1 Types A, B, and D. Types A, B, and D wing nuts shall be supplied in carbon steel, brass aluminum, or other materials as agreed upon by the supplier and purchaser.

2.5.2 Type C. Type C wing nuts shall be made from a die cast zinc alloy such as UNS designation Z33520, Z35531, Z35541, or an alloy having similar properties.

2.6 Finish

Unless otherwise specified, wing nuts shall be supplied with a plain (unplated or uncoated) finish.

2.7 Designation

When specifying wing nuts, the following data shall be included in the description:

(a) standard type
(b) thread size
(c) style and/or series
(d) material
(e) finish

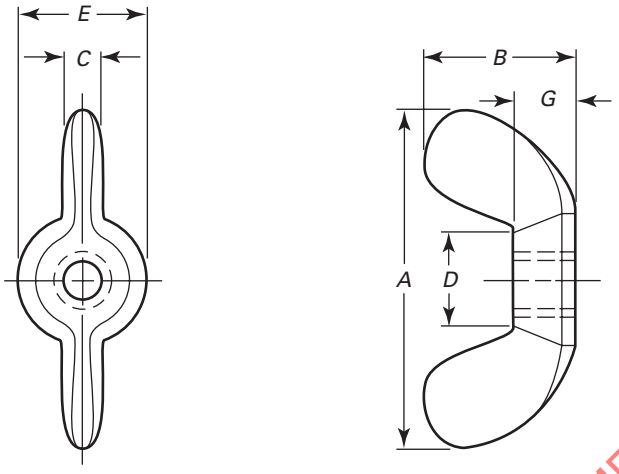
EXAMPLES:

(1) ASME B18.6.9, 10-32 Type A Wing Nut, Heavy Series, Steel per UNS G10060, Zinc Plated to ASTM F 1941, Fe/Zn 3A.
(2) ASME B18.6.9, ¼-20 Type C Wing Nut, Style 1, Zinc Alloy per UNS Z33520, Plain.

2.8 Inspection and Quality Assurance

Unless otherwise specified, acceptability of nuts shall be determined in accordance with ASME B18.18.2.

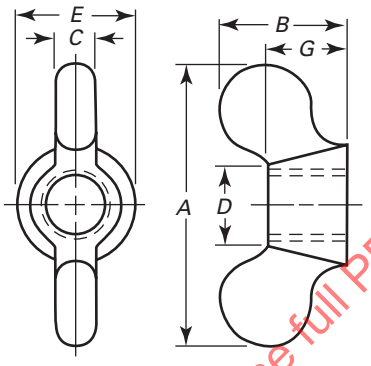
Table 1 Dimensions of Type A Wing Nuts



Nominal Size or Basic Major Dia. of Thread	Threads per Inch	Series [Note (1)]	Nut Blank Size (Ref)	Wing Spread, *A*		Wing Height, *B*		Wing Thickness, *C*		Between Wings, *D*		Boss Diameter, *E*		Boss Height, *G*	
				Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
3 (0.0990)	48 and 56	Heavy	AA	0.72	0.59	0.41	0.28	0.11	0.07	0.21	0.17	0.33	0.29	0.14	0.10
4 (0.1120)	40 and 48	Heavy	AA	0.72	0.59	0.41	0.28	0.11	0.07	0.21	0.17	0.33	0.29	0.14	0.10
5 (0.1250)	**40 and 44**	**Light**	**AA**	**0.72**	**0.59**	**0.41**	**0.28**	**0.11**	**0.07**	**0.21**	**0.17**	**0.33**	**0.29**	**0.14**	**0.10**
5 (0.1250)	40 and 44	Heavy	A	0.91	0.78	0.47	0.34	0.14	0.10	0.27	0.22	0.43	0.39	0.18	0.14
6 (0.1380)	32 and 40	Light	AA	0.72	0.59	0.41	0.28	0.11	0.07	0.21	0.17	0.33	0.29	0.14	0.10
6 (0.1380)	**32 and 40**	**Heavy**	**A**	**0.91**	**0.78**	**0.47**	**0.34**	**0.14**	**0.10**	**0.27**	**0.22**	**0.43**	**0.39**	**0.18**	**0.14**
8 (0.1640)	**32 and 36**	**Light**	**A**	**0.91**	**0.78**	**0.47**	**0.34**	**0.14**	**0.10**	**0.27**	**0.22**	**0.43**	**0.39**	**0.18**	**0.14**
8 (0.1640)	32 and 36	Heavy	B	1.10	0.97	0.57	0.43	0.18	0.14	0.33	0.26	0.50	0.45	0.22	0.17
10 (0.1900)	**24 and 32**	**Light**	**A**	**0.91**	**0.78**	**0.47**	**0.34**	**0.14**	**0.10**	**0.27**	**0.22**	**0.43**	**0.39**	**0.18**	**0.14**
10 (0.1900)	24 and 32	Heavy	B	1.10	0.97	0.57	0.43	0.18	0.14	0.33	0.26	0.50	0.45	0.22	0.17
12 (0.2160)	**24 and 28**	**Light**	**B**	**1.10**	**0.97**	**0.57**	**0.43**	**0.18**	**0.14**	**0.33**	**0.26**	**0.50**	**0.45**	**0.22**	**0.17**
12 (0.2160)	24 and 28	Heavy	C	1.25	1.12	0.66	0.53	0.21	0.17	0.39	0.32	0.58	0.51	0.25	0.20
1/4 (0.2500)	**20 and 28**	**Light**	**B**	**1.10**	**0.97**	**0.57**	**0.43**	**0.18**	**0.14**	**0.33**	**0.26**	**0.50**	**0.45**	**0.22**	**0.17**
1/4 (0.2500)	20 and 28	Regular	C	1.25	1.12	0.66	0.53	0.21	0.17	0.39	0.32	0.58	0.51	0.25	0.20
1/4 (0.2500)	20 and 28	Heavy	D	1.44	1.31	0.79	0.65	0.24	0.20	0.48	0.42	0.70	0.64	0.30	0.26
5/16 (0.3125)	**18 and 24**	**Light**	**C**	**1.25**	**1.12**	**0.66**	**0.53**	**0.21**	**0.17**	**0.39**	**0.32**	**0.58**	**0.51**	**0.25**	**0.20**
5/16 (0.3125)	18 and 24	Regular	D	1.44	1.31	0.79	0.65	0.24	0.20	0.48	0.42	0.70	0.64	0.30	0.26
5/16 (0.3125)	18 and 24	Heavy	E	1.94	1.81	1.00	0.87	0.33	0.26	0.65	0.54	0.93	0.86	0.39	0.35
3/8 (0.3750)	**16 and 24**	**Light**	**D**	**1.44**	**1.31**	**0.79**	**0.65**	**0.24**	**0.20**	**0.48**	**0.42**	**0.70**	**0.64**	**0.30**	**0.26**
3/8 (0.3750)	16 and 24	Regular	E	1.94	1.81	1.00	0.87	0.33	0.26	0.65	0.54	0.93	0.86	0.39	0.35
7/16 (0.4375)	**14 and 20**	**Light**	**E**	**1.94**	**1.81**	**1.00**	**0.87**	**0.33**	**0.26**	**0.65**	**0.54**	**0.93**	**0.86**	**0.39**	**0.35**
7/16 (0.4375)	14 and 20	Heavy	F	2.76	2.62	1.44	1.31	0.40	0.34	0.90	0.80	1.19	1.13	0.55	0.51
1/2 (0.5000)	**13 and 20**	**Light**	**E**	**1.94**	**1.81**	**1.00**	**0.87**	**0.33**	**0.26**	**0.65**	**0.54**	**0.93**	**0.86**	**0.39**	**0.35**
1/2 (0.5000)	13 and 20	Heavy	F	2.76	2.62	1.44	1.31	0.40	0.34	0.90	0.80	1.19	1.13	0.55	0.51
9/16 (0.5625)	12 and 18	Heavy	F	2.76	2.62	1.44	1.31	0.40	0.34	0.90	0.80	1.19	1.13	0.55	0.51
5/8 (0.6250)	11 and 18	Heavy	F	2.76	2.62	1.44	1.31	0.40	0.34	0.90	0.80	1.19	1.13	0.55	0.51
3/4 (0.7500)	10 and 16	Heavy	F	2.76	2.62	1.44	1.31	0.40	0.34	0.90	0.80	1.19	1.13	0.55	0.51

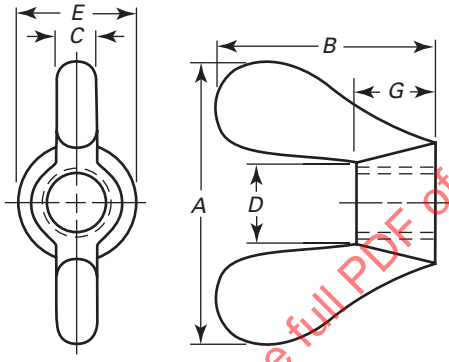
NOTE:
(1) Sizes shown in boldface are preferred.

Table 2 Dimensions of Type B, Style 1 Wing Nuts



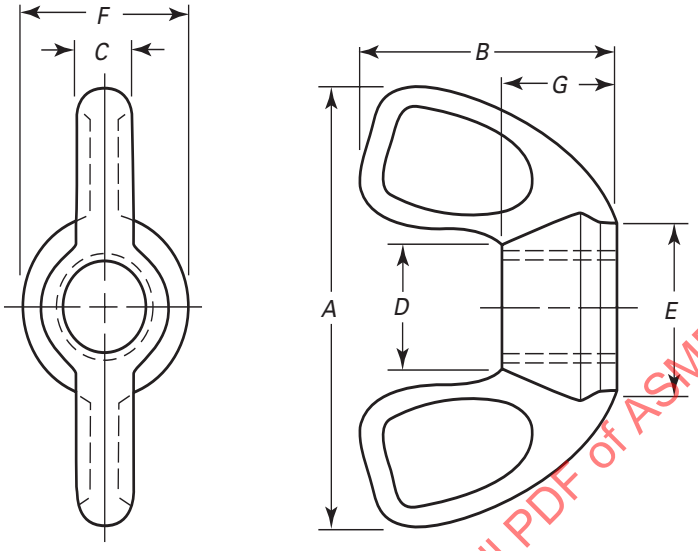
Nominal Size or Basic Major Dia. of Thread	Threads per Inch	Wing Spread, *A*		Wing Height, *B*		Wing Thickness, *C*		Between Wings, *D*		Boss Diameter, *E*		Boss Height, *G*	
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
5 (0.1250)	40	0.78	0.72	0.36	0.30	0.13	0.10	0.28	0.22	0.31	0.28	0.22	0.16
10 (0.1900)	24	0.97	0.91	0.45	0.39	0.15	0.12	0.34	0.28	0.39	0.36	0.28	0.22
1/4 (0.2500)	20	1.16	1.09	0.56	0.50	0.17	0.14	0.41	0.34	0.47	0.44	0.34	0.28
5/16 (0.3125)	18	1.44	1.38	0.67	0.61	0.18	0.15	0.50	0.44	0.55	0.52	0.41	0.34
3/8 (0.3750)	16	1.72	1.66	0.80	0.73	0.20	0.17	0.59	0.53	0.63	0.60	0.47	0.41
7/16 (0.4375)	14	2.00	1.94	0.91	0.84	0.21	0.18	0.69	0.62	0.71	0.68	0.53	0.47
1/2 (0.5000)	13	2.31	2.22	1.06	0.94	0.23	0.20	0.78	0.69	0.79	0.76	0.62	0.50
9/16 (0.5625)	12	2.59	2.47	1.17	1.05	0.25	0.21	0.88	0.78	0.88	0.84	0.69	0.56
5/8 (0.6250)	11	2.84	2.72	1.31	1.19	0.27	0.23	0.94	0.84	0.96	0.92	0.75	0.62
3/4 (0.7500)	10	3.31	3.19	1.52	1.39	0.29	0.25	1.10	1.00	1.12	1.08	0.88	0.75

Table 3 Dimensions of Type B, Style 2 Wing Nuts



Nominal Size or Basic Major Dia. of Thread	Threads per Inch	Wing Spread, *A*		Wing Height, *B*		Wing Thickness, *C*		Between Wings, *D*		Boss Diameter, *E*		Boss Height, *G*	
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
5 (0.1250)	40	0.81	0.75	0.62	0.56	0.12	0.09	0.28	0.22	0.31	0.28	0.22	0.16
10 (0.1900)	24	1.01	0.95	0.78	0.72	0.14	0.11	0.35	0.29	0.39	0.36	0.28	0.22
1/4 (0.2500)	20	1.22	1.16	0.94	0.88	0.16	0.13	0.41	0.35	0.47	0.44	0.34	0.28
5/16 (0.3125)	18	1.43	1.37	1.09	1.03	0.17	0.14	0.48	0.42	0.55	0.52	0.41	0.34
3/8 (0.3750)	16	1.63	1.57	1.25	1.19	0.18	0.15	0.55	0.49	0.63	0.60	0.47	0.41
7/16 (0.4375)	14	1.90	1.84	1.42	1.36	0.19	0.16	0.62	0.56	0.71	0.68	0.53	0.47
1/2 (0.5000)	13	2.13	2.04	1.58	1.45	0.20	0.17	0.69	0.60	0.79	0.76	0.62	0.50
9/16 (0.5625)	12	2.40	2.28	1.75	1.62	0.22	0.18	0.76	0.67	0.88	0.84	0.69	0.56
5/8 (0.6250)	11	2.60	2.48	1.91	1.78	0.23	0.19	0.83	0.74	0.96	0.92	0.75	0.62
3/4 (0.7500)	10	3.02	2.90	2.22	2.09	0.24	0.20	0.97	0.88	1.12	1.08	0.88	0.75

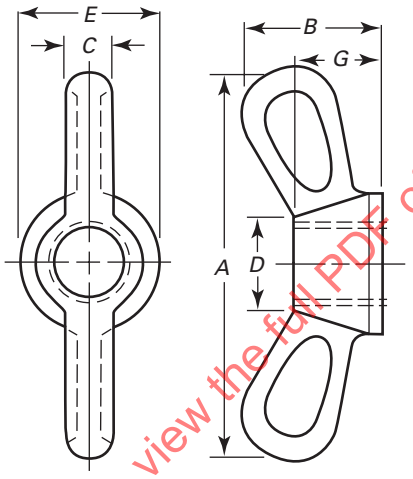
Table 4 Dimensions of Type C, Style 1 Wing Nuts



Nominal Size or Basic Major Dia. of Thread	Threads per Inch	Series [Note (1)]	Nut Blank Size (Ref)	Wing Spread, *A*		Wing Height, *B*		Wing Thickness, *C*		Between Wings, *D*		Boss Diameter, *E*		Boss Diameter, *F*		Boss Height, *G*	
				Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
4 (0.1120)	40	Regular	AA	0.66	0.64	0.36	0.35	0.11	0.09	0.18	0.16	0.27	0.25	0.32	0.30	0.16	0.14
5 (0.1250)	40	Regular	AA	0.66	0.64	0.36	0.35	0.11	0.09	0.18	0.16	0.27	0.25	0.32	0.30	0.16	0.14
6 (0.1380)	32	**Regular**	**AA**	**0.66**	**0.64**	**0.36**	**0.35**	**0.11**	**0.09**	**0.18**	**0.16**	**0.27**	**0.25**	**0.32**	**0.30**	**0.16**	**0.14**
6 (0.1380)	32	Heavy	A	0.85	0.83	0.43	0.42	0.14	0.12	0.29	0.27	0.38	0.36	0.41	0.40	0.20	0.18
8 (0.1640)	32	Regular	A	0.85	0.83	0.43	0.42	0.14	0.12	0.29	0.27	0.38	0.36	0.41	0.40	0.20	0.18
10 (0.1900)	24 and 32	Regular	A	0.85	0.83	0.43	0.42	0.14	0.12	0.29	0.27	0.38	0.36	0.41	0.40	0.20	0.18
12 (0.2160)	24	**Regular**	**A**	**0.85**	**0.83**	**0.43**	**0.42**	**0.14**	**0.12**	**0.29**	**0.27**	**0.38**	**0.36**	**0.41**	**0.40**	**0.20**	**0.18**
12 (0.2160)	24	Heavy	B	1.08	1.05	0.57	0.53	0.16	0.14	0.32	0.30	0.44	0.42	0.48	0.46	0.23	0.21
1/4 (0.2500)	20 and 28	Regular	B	1.08	1.05	0.57	0.53	0.16	0.14	0.32	0.30	0.44	0.42	0.48	0.46	0.23	0.21
5/16 (0.3125)	18 and 24	Regular	C	1.23	1.20	0.64	0.62	0.20	0.18	0.39	0.35	0.50	0.49	0.57	0.55	0.26	0.24
3/8 (0.3750)	16 and 24	Regular	D	1.45	1.42	0.74	0.72	0.23	0.21	0.46	0.42	0.62	0.60	0.69	0.67	0.29	0.27
7/16 (0.4375)	14 and 20	**Regular**	**E**	**1.89**	**1.86**	**0.91**	**0.90**	**0.29**	**0.28**	**0.67**	**0.65**	**0.75**	**0.73**	**0.83**	**0.82**	**0.38**	**0.37**
7/16 (0.4375)	14 and 20	Heavy	EH	1.89	1.86	0.93	0.91	0.34	0.33	0.63	0.62	0.81	0.79	0.89	0.87	0.42	0.40
1/2 (0.5000)	13 and 20	**Regular**	**E**	**1.89**	**1.86**	**0.91**	**0.90**	**0.29**	**0.28**	**0.67**	**0.65**	**0.75**	**0.73**	**0.83**	**0.82**	**0.38**	**0.37**
1/2 (0.5000)	13 and 20	Heavy	EH	1.89	1.86	0.93	0.91	0.34	0.33	0.63	0.62	0.81	0.79	0.89	0.87	0.42	0.40

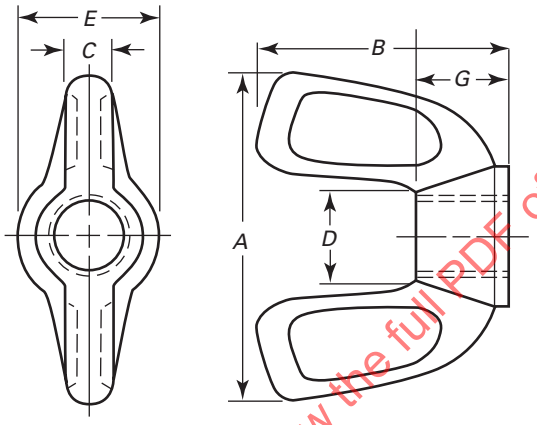
NOTE:
(1) Sizes shown in boldface type are preferred.

Table 5 Dimensions of Type C, Style 2 Wing Nuts



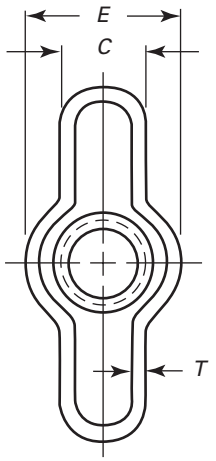
Nominal Size or Basic Major Dia. of Thread	Threads per Inch	Wing Spread, *A*		Wing Height, *B*		Wing Thickness, *C*		Between Wings, *D*		Boss Diameter, *E*		Boss Height, *G*	
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
5 (0.1250)	40	0.82	0.80	0.25	0.23	0.09	0.08	0.21	0.19	0.26	0.24	0.17	0.15
6 (0.1380)	32	0.82	0.80	0.25	0.23	0.09	0.08	0.21	0.19	0.26	0.24	0.17	0.15
8 (0.1640)	32	1.01	0.99	0.28	0.27	0.11	0.09	0.29	0.28	0.36	0.34	0.19	0.18
10 (0.1900)	24 and 32	1.01	0.99	0.28	0.27	0.11	0.09	0.29	0.28	0.36	0.34	0.19	0.18
12 (0.2160)	24	1.20	1.18	0.32	0.31	0.12	0.11	0.38	0.37	0.44	0.43	0.22	0.20
1/4 (0.2500)	20	1.20	1.18	0.32	0.31	0.12	0.11	0.38	0.37	0.44	0.43	0.22	0.20
5/16 (0.3125)	18	1.51	1.49	0.36	0.35	0.14	0.12	0.44	0.43	0.51	0.49	0.24	0.23
3/8 (0.3750)	16	1.89	1.86	0.58	0.55	0.20	0.17	0.44	0.43	0.63	0.62	0.37	0.35

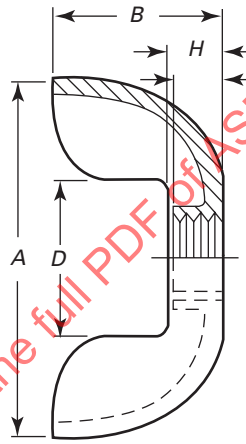
Table 6 Dimensions of Type C, Style 3 Wing Nuts



Nominal Size or Basic Major Dia. of Thread	Threads per Inch	Wing Spread, *A*		Wing Height, *B*		Wing Thickness, *C*		Between Wings, *D*		Boss Diameter, *E*		Boss Height, *G*	
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
5 (0.1250)	40	0.92	0.89	0.70	0.67	0.16	0.15	0.26	0.24	0.38	0.36	0.25	0.24
6 (0.1380)	32	0.92	0.89	0.70	0.67	0.16	0.15	0.26	0.24	0.38	0.36	0.25	0.24
8 (0.1640)	32	0.92	0.89	0.70	0.67	0.16	0.15	0.26	0.24	0.38	0.36	0.25	0.24
10 (0.1900)	24 and 32	1.14	1.12	0.85	0.83	0.19	0.17	0.32	0.30	0.44	0.42	0.29	0.27
12 (0.2160)	24	1.14	1.12	0.85	0.83	0.19	0.17	0.32	0.30	0.44	0.42	0.29	0.27
1/4 0.2500)	20	1.14	1.12	0.85	0.83	0.19	0.17	0.32	0.30	0.44	0.42	0.29	0.27
5/16 (0.3125)	18	1.29	1.27	1.04	1.02	0.23	0.22	0.39	0.36	0.50	0.49	0.35	0.34
3/8 (0.3750)	16	1.51	1.49	1.20	1.18	0.27	0.25	0.45	0.42	0.62	0.60	0.43	0.42

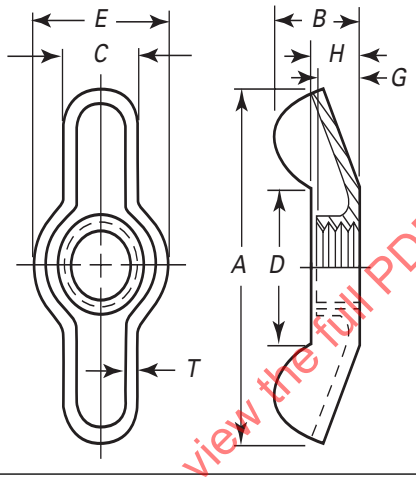
Table 7 Dimensions of Type D, Style 1 Wing Nuts





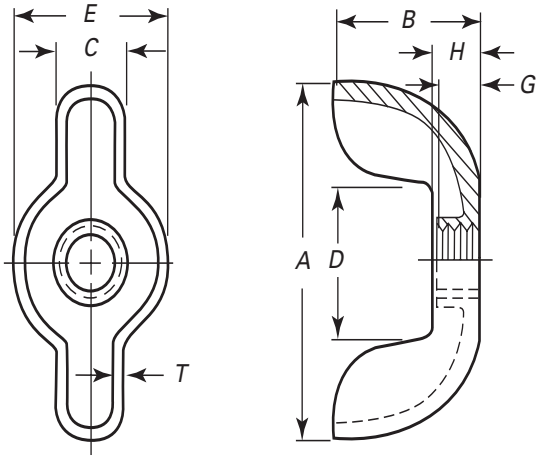
Nominal Size or Basic Major Dia. of Thread	Threads per Inch	Wing Spread, *A*		Wing Height, *B*		Wing Thickness, *C*		Minimum Between Wings, *D*	Boss Diameter, *E*		Minimum Boss Height, *G*	Minimum Wall Height, *H*	Stock Thickness, *T*	
		Max.	Min.	Max.	Min.	Max.	Min.		Max.	Min.			Max.	Min.
8 (0.1640)	32 and 36	0.78	0.72	0.40	0.34	0.18	0.14	0.25	0.41	0.35	0.08	0.12	0.04	0.03
10 (0.1900)	24 and 32	0.91	0.85	0.47	0.41	0.21	0.17	0.34	0.53	0.47	0.10	0.12	0.04	0.03
12 (0.2160)	24 and 28	1.09	1.03	0.47	0.41	0.21	0.17	0.34	0.53	0.47	0.10	0.12	0.05	0.04
1/4 (0.2500)	20 and 28	1.11	1.05	0.50	0.44	0.25	0.21	0.34	0.62	0.56	0.11	0.12	0.05	0.04
5/16 (0.3125)	18 and 24	1.30	1.24	0.59	0.53	0.30	0.26	0.46	0.73	0.67	0.14	0.18	0.06	0.05
3/8 (0.3750)	16 and 24	1.41	1.34	0.67	0.61	0.34	0.30	0.69	0.83	0.77	0.16	0.18	0.06	0.05

Table 8 Dimensions of Type D, Style 2 Wing Nuts (Low Wing)



Nominal Size or Basic Major Dia. of Thread	Threads per Inch	Series	Nut Blank Size (Ref)	Wing Spread, *A*		Wing Height, *B*		Wing Thickness, *C*		Minimum Between Wings, *D*	Boss Diameter, *E*		Minimum Boss Height, *G*	Minimum Wall Height, *H*	Stock Thickness, *T*	
				Max.	Min.	Max.	Min.	Max.	Min.		Max.	Min.			Max.	Min.
5 (0.1250)	40	Regular	A	1.03	0.97	0.25	0.19	0.19	0.13	0.30	0.40	0.34	0.07	0.09	0.04	0.03
6 (0.1380)	32	Regular	A	1.03	0.97	0.25	0.19	0.19	0.13	0.30	0.40	0.34	0.08	0.09	0.04	0.03
8 (0.1640)	32	Regular	A	1.03	0.97	0.25	0.19	0.19	0.13	0.30	0.40	0.34	0.08	0.09	0.04	0.03
10 (0.1900)	24 and 32	Regular	B	1.40	1.34	0.34	0.28	0.25	0.18	0.32	0.53	0.47	0.09	0.16	0.05	0.04
10 (0.1900)	24 and 32	Heavy	B	1.21	1.16	0.28	0.26	0.31	0.25	0.60	0.61	0.55	0.09	0.13	0.05	0.04
12 (0.2160)	24	Regular	C	1.21	1.16	0.28	0.26	0.31	0.25	0.60	0.61	0.55	0.11	0.13	0.05	0.04
1/4 (0.2500)	20	Regular	C	1.21	1.16	0.28	0.26	0.31	0.25	0.60	0.61	0.55	0.11	0.13	0.05	0.04

Table 9 Dimensions of Type D, Style 3 Wing Nuts (Large Base)



Nominal Size or Basic Major Dia. of Thread	Threads per Inch	Series	Nut Blank Size (Ref)	Wing Spread, *A*		Wing Height, *B*		Wing Thickness, *C*		Minimum Between Wings, *D*	Boss Diameter, *E*		Minimum Boss Height, *G*	Minimum Wall Height, *H*	Stock Thickness, *T*	
				Max.	Min.	Max.	Min.	Max.	Min.		Max.	Min.			Max.	Min.
10 (0.1900)	24 and 32	Light	A	1.31	1.25	0.48	0.42	0.29	0.23	0.47	0.65	0.59	0.08	0.12	0.04	0.03
10 (0.1900)	24 and 32	Regular	C	1.40	1.34	0.53	0.47	0.25	0.19	0.50	0.75	0.69	0.08	0.14	0.04	0.03
12 (0.2160)	24	Regular	B	1.28	1.22	0.40	0.34	0.23	0.17	0.59	0.73	0.67	0.11	0.12	0.04	0.03
1/4 (0.2500)	20	Light	B	1.28	1.22	0.40	0.34	0.23	0.17	0.59	0.73	0.67	0.11	0.12	0.04	0.03
1/4 (0.2500)	20	Regular	E	1.78	1.72	0.66	0.60	0.31	0.25	0.70	1.03	0.97	0.14	0.17	0.06	0.04
1/4 (0.2500)	20	Heavy	D	1.47	1.40	0.50	0.44	0.37	0.31	0.66	1.03	0.97	0.14	0.14	0.08	0.06
5/16 (0.3125)	18	Regular	E	1.78	1.72	0.66	0.60	0.31	0.25	0.70	1.03	0.97	0.14	0.17	0.06	0.04
5/16 (0.3125)	18	Heavy	D	1.47	1.40	0.50	0.44	0.37	0.31	0.66	1.03	0.97	0.14	0.14	0.08	0.06