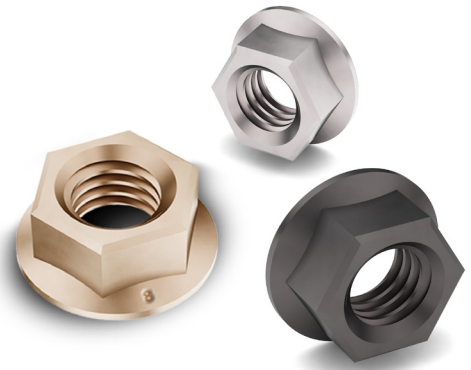




Hex Flange Nuts offer a unibody design that eliminates the need for a separate washer. The built-in flange distributes the clamping load over a wider area and reduces the risk of loosening due to vibration. Earnest Machine stocks Hex Flange Nuts in both inch & metric in sizes from 1/4" to 1" & M4 to M20.



#### PRODUCT ATTRIBUTES

Built-in washer distributes clamping load over wider area

Replaces traditional nut & washer applications

Available in standard & large flange diameter styles

Sizes range from 1/4" to 1", M4 to M20

#### MARKETS FOR HEX FLANGE NUTS

Heavy Truck

Agriculture Equipment

Robotics & Automation

Construction Equipment

Food Processing Equipment

Automotive

#### THIS PRODUCT IS OFTEN CALLED...

Hex Flange Nut

Hex Washer Nut

Hex Nut with Flange

#### AVAILABLE VALUE ADDED SERVICES

Bulk, full case & broken quantities

Secondary & rework services available

Custom packaging services

Custom plating

#### ADDITIONAL HEX FLANGE PRODUCTS WE SUPPLY

Hex Flange Lag Screws

Hex Flange Screws

Metric & JIS Hex Flange Screws

Metric Stainless Steel Hex Flange Screws

Hex Serrated Flange Screws

Large Flange Hex Serrated Flange Screws

Stainless Steel Hex Serrated Flange Screws

Metric Hex Serrated Flange Screws

Hex Serrated Flange Lock Nuts

Large Flange Hex Serrated Flange Lock Nuts

Stainless Steel Hex Serrated Flange Lock Nuts

Metric & JIS Hex Serrated Flange Lock Nuts

All Metal Hex Flange Lock Nuts

Metric All Metal Hex Flange Lock Nuts

Nylon Insert Hex Flange Lock Nuts

Metric Nylon Insert Flange Lock Nuts

BACKED BY THE EARNEST

**Service**  
GUARANTEE

**The right part.  
The right quantity.  
On-time.  
Everytime.**

## GRADE 8 & GRADE 5 HEX FLANGE NUTS

Hex Flange Nuts are manufactured in accordance with the latest revision of the following industry standards:

- ASME B18.2.2** Dimensional Requirements (formerly IFI-145)
- SAE J995** Material and Physical Properties
- ASME B1.1** Thread Requirements
- ASTM F812** Surface Discontinuities
- ASME B18.18** Inspection and Quality Assurance

## THREADS

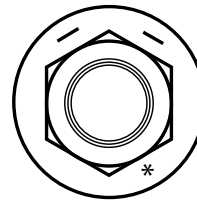
Threads are made to the requirements of ASME B1.1 Unified Threads (UNC and UNF) Class 2B  
Thread acceptance per ASME B1.3, System 21

## PLATING

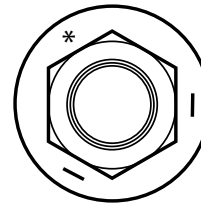
GRADE 8	GRADE 5
Plain	n/a
Phos and Oil	n/a
Zinc Clear CR+3	n/a
n/a	Zinc Clear (RoHS compliant Cr3+)
Zinc Yellow	Zinc Yellow

## MATERIAL AND PHYSICAL PROPERTIES

### Grade 8



### Grade 5



### Chemical Composition:

GRADE	CARBON (C)	MANGANESE (Mn)	PHOSPHORUS (P)	SULFUR (S)
	Max	Min	Max	Max
8	0.55	0.30	0.04	0.05
5	0.55	0.30	0.04	0.15

### Hardness

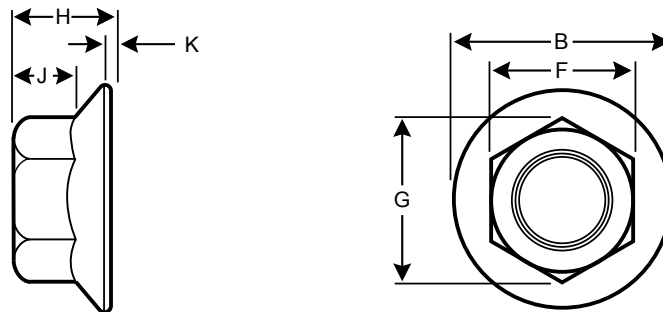
SAE J995 GRADE 8	SAE J995 GRADE 5
HRC 25/36	HRC 32 max

### Proof Load Strength

SAE J995 GRADE 8	SAE J995 GRADE 5
150,000 psi min	120,000 psi min

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## DIMENSIONS FOR GRADE 8 & GRADE 5 HEX FLANGE NUTS



SIZE	GRADE	WIDTH ACROSS FLATS (F)		WIDTH ACROSS CORNERS (G)		FLANGE DIAMETER (B)		NUT THICKNESS (H)		WRENCH HEIGHT (J)	FLANGE THICKNESS (K)
		MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MIN	MIN
1/4	8 & 5	0.438	0.428	0.505	0.488	0.594	0.574	0.236	0.222	0.14	0.04
5/16	8 & 5	0.500	0.489	0.577	0.557	0.680	0.660	0.283	0.268	0.17	0.04
3/8	8 & 5	0.562	0.551	0.650	0.628	0.750	0.728	0.347	0.330	0.23	0.04
7/16	8 & 5	0.688	0.675	0.794	0.768	0.937	0.910	0.395	0.375	0.26	0.04
1/2	8 & 5	0.750	0.736	0.866	0.840	1.031	1.000	0.458	0.437	0.31	0.05
5/8	8 & 5	0.938	0.922	1.083	1.051	1.281	1.248	0.569	0.545	0.40	0.05
3/4	8	1.125	1.088	1.299	1.240	1.500	1.460	0.675	0.627	0.46	0.06
7/8	8	1.312	1.269	1.516	1.447	1.750	1.700	.800	.737	.38	.075
1"	8	1.500	1.450	1.732	1.653	2.060	1.940	.900	.850	.53	.075

## METRIC CLASS 10 & CLASS 8 HEX FLANGE NUTS

Hex Flange Nuts are manufactured in accordance with the latest revision of the following industry standards:

<b>DIN 6923</b>	Dimensional Requirements
<b>ISO 898-2</b>	Material and Physical Properties
<b>ISO 261</b>	Thread Requirements
<b>ISO 6157-2</b>	Surface Discontinuities
<b>ISO 3269</b>	Inspection and Quality Assurance

## THREADS

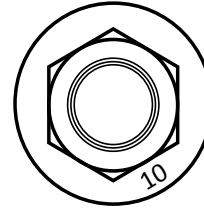
Threads are made to the requirements of ISO 261  
ISO 965-2 Class 6H  
Thread acceptance per ISO 1502

## PLATING

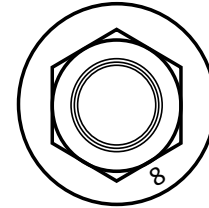
ISO 898-2 Class 10	ISO 898-2 Class 8
Plain	n/a
Phos and Oil	n/a
Zinc Clear CR+3	n/a
n/a	Zinc Clear (RoHS compliant Cr3+)
Zinc Yellow	n/a

## MATERIAL AND PHYSICAL PROPERTIES

### Property Class 10



### Property Class 8



### Chemical Composition:

CLASS	CARBON (c)	MANGANESE (Mn)	PHOSPHORUS (P)	SULFUR (S)
	Max	Min	Max	Max
10	0.58	0.30	0.048	0.058
8	0.58	0.25	0.060	0.15

### Hardness

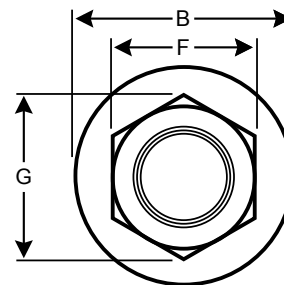
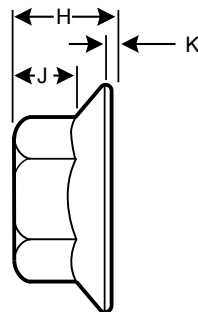
ISO 898-2 CLASS 10	ISO 898-2 CLASS 8
HRC 26/36	HRB 90 to HRC 32

### Proof Load Strength

ISO 898-2 CLASS 10	ISO 898-2 CLASS 8
1040 MPa min	855 MPa min

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## DIMENSIONS FOR CLASS 10 & CLASS 8 HEX FLANGE NUTS



SIZE	WIDTH ACROSS FLATS (F)		WIDTH ACROSS CORNERS (G)		FLANGE DIAMETER (B)	NUT THICKNESS (H)		WRENCH HEIGHT (J)	FLANGE THICKNESS (K)
	MAX	MIN	MAX	MIN		MAX	MIN		
M5	8.00	7.78	9.24	8.79	11.80	5.00	4.70	2.2	1.00
M6	10.00	9.78	11.55	11.05	14.20	6.00	5.70	3.10	1.10
M8	13.00	12.73	15.01	14.38	17.90	8.00	7.60	4.50	1.20
M10	15.00	14.73	17.32	16.64	21.80	10.00	9.60	5.50	1.50
M12	18.00	17.73	20.78	20.03	26.00	12.00	11.60	6.70	1.80
M16	24.00	23.67	27.71	26.75	34.50	16.00	15.30	9.00	2.40
M20	30.00	29.67	34.61	32.95	42.80	20.00	18.90	11.1	3.00

## JIS METRIC CLASS 10 HEX FLANGE NUTS

Hex Flange Nuts are manufactured in accordance with the latest revision of the following industry standards:

<b>JIS B1190</b>	Dimensional Requirements
<b>ISO 898-2</b>	Material and Physical Properties
<b>ISO 261</b>	Thread Requirements
<b>ISO 6157-2</b>	Surface Discontinuities
<b>ISO 3269</b>	Inspection and Quality Assurance

## THREADS

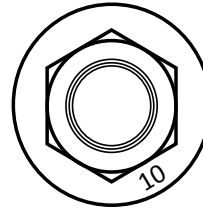
Threads are made to the requirements of ISO 261  
ISO 965-2 Class 6H  
Thread acceptance per ISO 1502

## PLATING

Phos and Oil  
Zinc Clear (RoHS compliant Cr3+)

## MATERIAL AND PHYSICAL PROPERTIES

### JIS Property Class 10



### Chemical Composition:

CARBON (C)	MANGANESE (Mn)	PHOSPHORUS (P)	SULFUR (S)
Max	Min	Max	Max
0.58	0.30	0.048	0.058

### Hardness

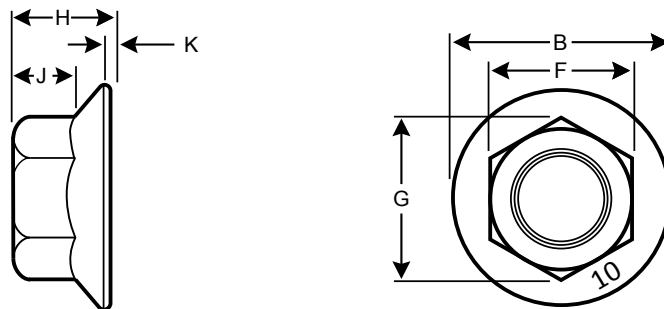
CLASS 10
HRC 26/36

### Proof Load Strength

CLASS 10
1040 MPa min

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## DIMENSIONS FOR JIS METRIC CLASS 10 HEX FLANGE NUTS



SIZE	WIDTH ACROSS FLATS (F)		WIDTH ACROSS CORNERS (G)	FLANGE DIAMETER (B)	NUT THICKNESS (H)		WRENCH HEIGHT (K)	FLANGE THICKNESS (K)
	MAX	MIN	MIN	MAX	MAX	MIN	MIN	MIN
M6	10.00	9.80	11.05	14.00	6.00	5.25	3.60	0.80
M8	12.00	11.75	13.25	17.50	8.00	7.10	4.80	1.10
M10	14.00	13.75	15.51	21.00	10.00	9.10	6.00	1.20
M12	17.00	16.75	18.90	25.00	11.50	10.40	7.20	1.40

## METRIC A2-70 STAINLESS STEEL HEX FLANGE NUTS

Hex Flange Nuts are manufactured in accordance with the latest revision of the following industry standards:

- DIN 6923** Dimensional Requirements
- ISO 3506-2** Material and Physical Properties
- ISO 261** Thread Requirements
- ISO 6157-2** Surface Discontinuities
- ISO 3269** Inspection and Quality Assurance

### THREADS

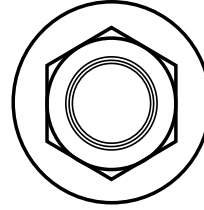
Threads are made to the requirements of ISO 261  
 ISO 965-2 Class 6H  
 Thread acceptance per ISO 1502

### PLATING

Plain (Passivated)

## MATERIAL AND PHYSICAL PROPERTIES

### Metric A2-70 Stainless Steel



### Chemical Composition:

CARBON (C)	SILICON (Si)	MANGANESE (Mn)	PHOSPHOROUS (P)	SULFUR (S)	CHROMIUM (Cr)	NICKEL (Ni)	COPPER (Cu)
Max	Max	Max	Max	Max	Min - Max	Min - Max	Max
0.1	1.0	2.0	0.05	0.03	15.0 to 20.0	8.0 to 19.0	4.0

### Hardness

#### METRIC A2-70 STAINLESS STEEL

HRB 80 to HRC 35

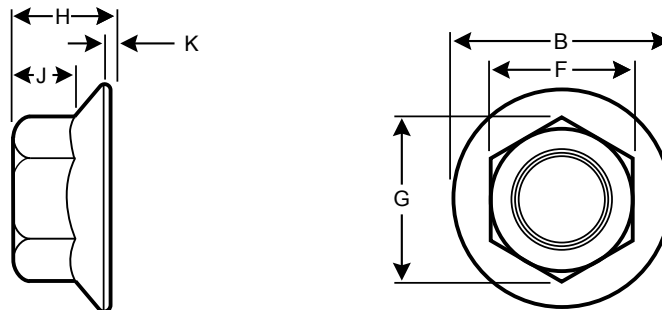
### Proof Load Strength

#### METRIC A2-70 STAINLESS STEEL

700 MPa

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## DIMENSIONS FOR METRIC A2-70 STAINLESS STEEL HEX FLANGE NUTS



SIZE	WIDTH ACROSS FLATS (F)		WIDTH ACROSS CORNERS (G)		FLANGE DIAMETER (B)	NUT THICKNESS (H)		WRENCH HEIGHT (J)	FLANGE THICKNESS (K)
	MAX	MIN	MAX	MIN	MAX	MAX	MIN	MIN	MIN
M6	10.00	9.78	11.55	11.05	14.20	6.00	5.70	3.10	1.10
M8	13.00	12.73	15.01	14.38	17.90	8.00	7.60	4.50	1.20
M10	15.00	14.73	17.32	16.64	21.80	10.00	9.60	5.50	1.50
M12	18.00	17.73	20.78	20.03	26.00	12.00	11.60	6.70	1.80

## Hex Flange Nuts - Inch

### Grade 8

SIZE	GRADE	PITCH	FINISH	PART #
1/4-20	GR 8	Coarse	Plain	370018
1/4-20	GR 8	Coarse	Phos & Oil	370400
1/4-20	GR 8	Coarse	Zinc Clear	370020
1/4-20	GR 8	Coarse	Zinc Yellow	370019

1/4-28	GR 8	Fine	Plain	370028
1/4-28	GR 8	Fine	Phos & Oil	370402
1/4-28	GR 8	Fine	Zinc Clear	370029T

5/16-18	GR 8	Coarse	Plain	370038
5/16-18	GR 8	Coarse	Phos & Oil	370404
5/16-18	GR 8	Coarse	Zinc Yellow	370039

5/16-24	GR 8	Fine	Phos & Oil	370406
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3/8-16	GR8	Coarse	Plain	370058
3/8-16	GR 8	Coarse	Phos & Oil	370408
3/8-16	GR 8	Coarse	Zinc Clear	370059T
3/8-16	GR 8	Coarse	Zinc Yellow	370057

7/16-20	GR 8	Fine	Plain	370088
7/16-20	GR 8	Fine	Zinc Yellow	370087

1/2-13	GR 8	Coarse	Plain	370108
1/2-13	GR 8	Coarse	Phos & Oil	370410
1/2-13	GR 8	Coarse	Zinc Clear	370107T
1/2-13	GR 8	Coarse	Zinc Yellow	370109

1/2-20	GR 8	Fine	Plain	370128
1/2-20	GR 8	Fine	Phos & Oil	370129
9/16-18	GR 8	Fine	Plain	370168

5/8-11	GR 8	Coarse	Plain	370188
5/8-11	GR 8	Coarse	Phos & Oil	370412
5/8-11	GR 8	Coarse	Zinc Clear	370183T
5/8-11	GR 8	Coarse	Zinc Yellow	370189

5/8-18	GR 8	Fine	Plain	370208
5/8-18	GR 8	Fine	Phos & Oil	370414
5/8-18	GR 8	Fine	Zinc Clear	370205T
5/8-18	GR 8	Fine	Zinc Yellow	370209

### Grade 8

SIZE	GRADE	PITCH	FINISH	PART #
3/4-10	GR 8	Coarse	Plain	370228
3/4-10	GR 8	Coarse	Phos & Oil	370416
3/4-10	GR 8	Coarse	Zinc Clear	370229
3/4-10	GR 8	Coarse	Zinc Yellow	370227

3/4-16	GR 8	Fine	Plain	370248
3/4-16	GR 8	Fine	Phos & Oil	370418
3/4-16	GR 8	Fine	Zinc Clear	370246T
3/4-16	GR 8	Fine	Zinc Yellow	370247

7/8-9	GR 8	Coarse	Plain	370268
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7/8-14	GR 8	Fine	Plain	370288
7/8-14	GR 8	Fine	Phos & Oil	370289
7/8-14	GR 8	Fine	Zinc Yellow	370287

1-8	GR 8	Coarse	Plain	370308
1-8	GR 8	Coarse	Zinc Yellow	370307

1-14	GR 8	Extra Fine	Plain	370328
1-14	GR 8	Extra Fine	Zinc Yellow	370327

### Grade 5

SIZE	GRADE	PITCH	FINISH	PART #
1/4-20	GR 5	Coarse	Zinc Clear	370022T
1/4-20	GR 5	Coarse	Zinc Yellow	370023

1/4-28	GR 5	Fine	Plain	370026
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5/16-18	GR 5	Coarse	Zinc Clear	370032T
5/16-18	GR 5	Coarse	Zinc Yellow	370034
3/8-16	GR 5	Coarse	Zinc Clear	370052T
7/16-14	GR 5	Coarse	Zinc Yellow	370074
1/2-13	GR 5	Coarse	Plain	370105
1/2-13	GR5	Coarse	Zinc Clear	370102T
1/2-13	GR5	Coarse	Zinc Yellow	370104
5/8-11	GR5	Coarse	Zinc Clear	370112T

## Hex Flange Nuts - Metric

### Metric Class 10

SIZE	GRADE	PITCH	FINISH	PART #
M5-0.8	ISO 10	Coarse	Plain Finish	484000
M5-0.8	ISO 10	Coarse	Phos & Oil	484008
M5-0.8	ISO 10	Coarse	Zinc Clear	484008T
M6-1.0	ISO 10	Coarse	Plain Finish	484018
M6-1.0	ISO 10	Coarse	Phos & Oil	484015
M6-1.0	ISO 10	Coarse	Zinc Clear	484004T
M6-1.0	ISO 10	Coarse	Zinc Yellow	484007
M8-1.25	ISO 10	Coarse	Plain Finish	484028
M8-1.25	ISO 10	Coarse	Phos & Oil	484027
M8-1.25	ISO 10	Coarse	Zinc Clear	484026T
M8-1.25	ISO 10	Coarse	Zinc Yellow	484005
M10-1.5	ISO 10	Coarse	Plain Finish	484048
M10-1.5	ISO 10	Coarse	Phos & Oil	484049
M10-1.5	ISO 10	Coarse	Zinc Clear	484046T
M10-1.5	ISO 10	Coarse	Zinc Yellow	484047
M12-1.75	ISO 10	Coarse	Plain Finish	484068
M12-1.75	ISO 10	Coarse	Phos & Oil	484059
M12-1.75	ISO 10	Coarse	Zinc Clear	484065T
M12-1.75	ISO 10	Coarse	Zinc Yellow	484066
M14-2.0	ISO 10	Coarse	Zinc Clear	484076T
M14-2.0	ISO 10	Coarse	Zinc Yellow	484079
M14-1.5	ISO 10	Fine	Zinc Yellow	484080
M14-1.5	ISO 10	Fine	Plain Finish	484081
M16-2.0	ISO 10	Coarse	Plain Finish	484108
M16-2.0	ISO 10	Coarse	Phos & Oil	484107
M16-2.0	ISO 10	Coarse	Zinc Clear	484109T
M16-2.0	ISO 10	Coarse	Zinc Yellow	484106
M20-2.5	ISO 10	Coarse	Plain Finish	484158
M20-2.5	ISO 10	Coarse	Zinc Clear	484159T
M20-2.5	ISO 10	Coarse	Zinc Yellow	484157

### Metric Class 8

SIZE	GRADE	PITCH	FINISH	PART #
M5-0.8	ISO 8	Coarse	Plain Finish	484011
M5-0.8	ISO 8	Coarse	Zinc Clear	484010
M6-1.0	ISO 8	Coarse	Zinc Yellow	484014
M8-1.25	ISO 8	Coarse	Plain Finish	484025
M8-1.25	ISO 8	Coarse	Zinc Yellow	484024
M10-1.5	ISO 8	Coarse	Zinc Yellow	484044
M12-1.75	ISO 8	Coarse	Zinc Yellow	484064

### Metric A2 - 70 Stainless Steel

SIZE	GRADE	PITCH	FINISH	PART #
M6-1.0	A2-70	Coarse	Passivated	484052
M8-1.25	A2-70	Coarse	Passivated	484053
M10-1.5	A2-70	Coarse	Passivated	484050
M12-1.75	A2-70	Coarse	Passivated	484051

### JIS Metric Class 10

SIZE	GRADE	PITCH	FINISH	PART #
M6-1.0	ISO 10	Coarse	Phos & Oil	484093
M6-1.0	ISO 10	Coarse	Zinc Clear	484092T
M8-1.25	ISO 10	Coarse	Zinc Clear	484094T
M8-1.25	ISO 10	Coarse	Phos & Oil	484094
M10-1.25	ISO 10	Fine	Plain	484096
M10-1.25	ISO 10	Fine	Zinc Clear	484096T
M12-1.25	ISO 10	Fine	Zinc Clear	484098T