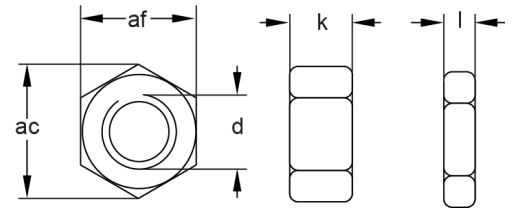


# NUTS

## Nuts

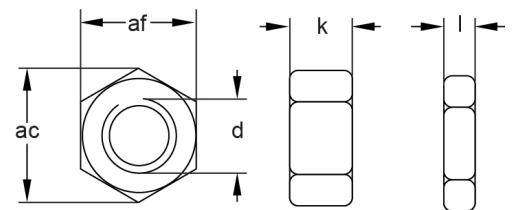
### Metric Hex Nuts, Property Classes 5, 8 and 10 - Thin Nuts, Property Classes 04 and 05


**AS 1112.1 / AS 1112.4**


Diameter mm	Pitch mm	af		ac		k		l	
		Min	Max	Min	Max	Min	Max	Min	Max
M4	0.70	6.78	7.00	7.66	2.90	3.20	1.95	2.20	
M5	0.80	7.78	8.00	8.79	4.40	4.70	2.45	2.70	
M6	1.00	9.78	10.00	11.05	4.90	5.20	2.90	3.20	
M8	1.25	12.73	13.00	14.38	6.44	6.80	3.70	4.00	
M10	1.50	15.73	16.00	17.77	8.04	8.40	4.70	5.00	
M12	1.75	17.73	18.00	20.03	10.37	10.80	5.70	6.00	
M14	2.00	20.67	21.00	23.35	12.10	12.80	6.42	7.00	
M16	2.00	23.67	24.00	26.75	14.10	14.80	7.42	8.00	
M18	2.50	26.16	27.00	29.56	15.10	15.80	8.42	9.00	
M20	2.50	29.16	30.00	32.95	16.90	18.00	9.10	10.00	
M22	2.50	33.00	34.00	39.29	18.10	19.40	9.90	11.00	
M24	3.00	30.00	36.00	39.55	20.20	21.50	8.70	12.00	
M27	3.00	40.00	41.00	45.20	22.50	23.80	12.40	13.50	
M30	3.50	45.00	46.00	50.85	24.30	25.60	13.90	15.00	
M33	3.50	49.00	50.00	55.37	27.40	28.70	15.40	16.50	
M36	4.00	53.80	55.00	60.79	29.40	31.00	16.90	18.00	
M42	4.50	63.10	65.00	71.30	32.40	34.00	19.70	21.00	
M48	5.00	73.10	75.00	82.60	36.40	38.00	22.70	24.00	
M56	5.50	82.80	85.00	93.56	43.40	45.00	26.70	28.00	
M64	6.00	92.80	95.00	104.86	49.10	51.00	30.40	32.00	

### UNC and UNF - Hexagon Nuts

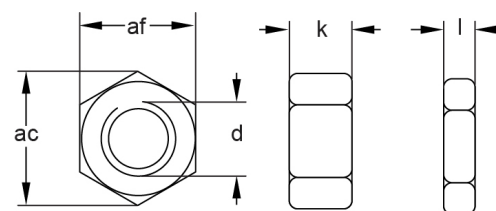
(Thin nut thicknesses included for information only.  
Standard does not cover thin nuts)


**AS / NZS 2465**


Diameter	af		ac		k		l	
	Min	Max	Min	Max	Min	Max	Min	Max
1/4	0.428	0.438	0.488	0.505	0.212	0.226	0.150	0.163
5/16	0.489	0.500	0.557	0.577	0.258	0.273	0.180	0.195
3/8	0.551	0.562	0.628	0.650	0.320	0.337	0.210	0.227
7/16	0.675	0.688	0.768	0.794	0.365	0.385	0.240	0.260
1/2	0.736	0.750	0.840	0.866	0.427	0.448	0.302	0.323
9/16	0.861	0.875	0.982	1.010	0.473	0.496	0.301	0.324
5/8	0.922	0.938	1.051	1.083	0.535	0.559	0.363	0.387
3/4	1.088	1.125	1.240	1.299	0.617	0.665	0.398	0.446
7/8	1.269	1.312	1.447	1.516	0.724	0.776	0.458	0.510
1	1.450	1.500	1.653	1.732	0.831	0.887	0.519	0.575
1 1/8	1.631	1.688	1.859	1.949	0.939	0.999	0.579	0.639
1 1/4	1.812	1.875	2.066	2.165	1.030	1.094	0.687	0.751
1 3/8	1.994	2.062	2.273	2.382	1.138	1.206	0.747	0.815
1 1/2	2.175	2.250	2.480	2.598	1.245	1.317	0.808	0.880

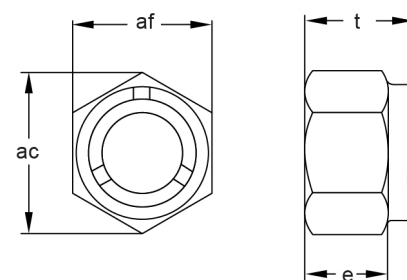
### BSW Hexagon Nuts

(Thin nut thicknesses included for information only. Standard does not cover thin nuts)



Diameter	af		ac	k		l	
	Min	Max	Min	Min	Max	Min	Max
1/4	0.435	0.445	0.50	0.180	0.200	0.180	0.185
5/16	0.515	0.525	0.59	0.230	0.250	0.200	0.210
3/8	0.585	0.600	0.67	0.292	0.312	0.250	0.260
7/16	0.695	0.710	0.79	0.355	0.375	0.265	0.275
1/2	0.800	0.820	0.91	0.417	0.437	0.290	0.300
5/8	0.985	1.010	1.12	0.542	0.562	0.375	0.410
3/4	1.175	1.200	1.34	0.668	0.687	0.458	0.490
7/8	1.270	1.300	1.45	0.720	0.750	0.500	0.550
1	1.450	1.480	1.65	0.835	0.875	0.583	0.630
1 1/8	1.640	1.670	1.87	0.960	1.000	0.666	0.720
1 1/4	1.815	1.860	2.07	1.108	1.125	0.750	0.810
1 3/8	2.005	2.050	2.29	1.119	1.250	0.833	0.890
1 1/2	2.175	2.220	2.48	1.315	1.375	0.916	0.980
1 5/8	2.365	2.410	2.70	1.500	1.580	1.000	1.060
1 3/4	2.520	2.580	2.87	1.625	1.725	1.083	1.160
2	2.700	2.760	3.08	1.750	1.850	1.166	1.250

### Metric Coarse Pitch Thread Nylon Insert Locknuts



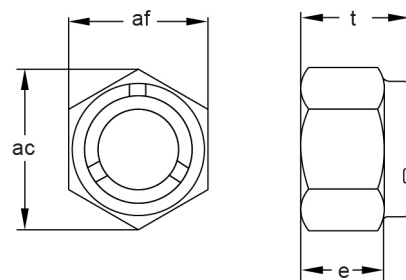
Diameter mm	Pitch mm	af		ac	t	e
		Min	Max	Min	Max	Min
M3	0.50	5.32	5.50	6.01	4.00	2.40
M4	0.70	6.78	7.00	7.66	5.00	2.90
M5	0.80	7.78	8.00	8.79	5.00	3.20
M6	1.00	9.78	10.00	11.05	6.00	4.00
M8	1.25	12.73	13.00	14.38	8.00	5.50
M10	1.50	16.73	17.00	18.90	10.00	6.50
M12	1.75	18.67	19.00	21.10	12.00	8.00
M14	2.00	21.67	22.00	24.49	14.00	9.50
M16	2.00	23.67	24.00	26.75	16.00	10.50
M18	2.50	26.16	27.00	29.56	18.50	13.00
M20	2.50	29.16	30.00	32.95	20.00	14.00
M22	2.50	31.00	32.00	35.03	22.00	15.00
M24	3.00	35.00	36.00	39.55	24.00	15.00
M30	3.50	45.00	46.00	50.85	30.00	19.00
M36	4.00	53.80	55.00	60.79	36.00	25.00
M42	4.50	63.80	65.00	72.09	42.00	29.00
M48	5.00	73.10	75.00	82.60	48.00	36.00

# NUTS

## Metric Fine Pitch Thread Nylon Insert Locknuts



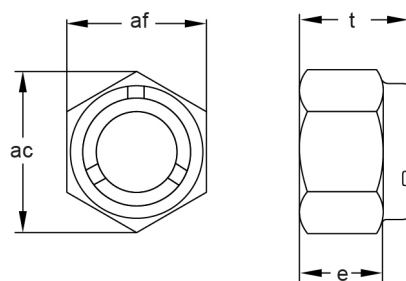
Diameter mm	Pitch mm	af		ac	t		e
		Min	Max	Min	Max	Min	
M8	1.00	12.73	13.00	14.38	8.00	5.50	
M10	1.25	16.73	17.00	18.90	10.00	6.50	
M12	1.25	18.67	19.00	21.10	12.00	8.00	
M12	1.50	18.67	19.00	21.10	12.00	8.00	
M14	1.50	21.67	22.00	24.49	14.00	9.50	
M16	1.50	23.67	24.00	26.75	16.00	10.50	
M18	1.50	26.16	27.00	29.56	18.50	13.00	
M20	1.50	29.16	30.00	32.95	20.00	14.00	
M22	1.50	31.00	32.00	35.03	22.00	15.00	
M24	2.00	35.00	36.00	39.55	24.00	15.00	



## UNC and UNF Nylon Insert Locknuts



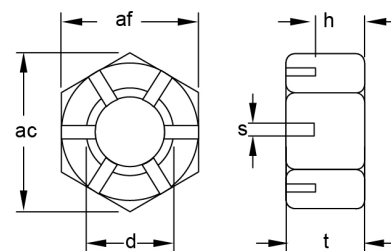
Diameter	af		ac	t		e
	Min	Max	Min	Max	Min	
1/4	0.430	0.439	0.482	0.328	0.225	
5/16	0.489	0.502	0.552	0.359	0.250	
3/8	0.551	0.564	0.622	0.468	0.335	
7/16	0.616	0.627	0.698	0.468	0.324	
1/2	0.736	0.752	0.837	0.609	0.464	
9/16	0.861	0.877	0.978	0.656	0.469	
5/8	0.922	0.940	1.051	0.765	0.593	
3/4	1.052	1.064	1.191	0.890	0.742	
7/8	1.239	1.252	1.403	0.999	0.790	
1	1.427	1.440	1.615	1.078	0.825	
1 1/8	1.614	1.627	1.826	1.203	0.930	
1 1/4	1.801	1.815	2.038	1.422	1.125	
1 3/8	1.973	2.008	2.232	1.609	1.282	
1 1/2	2.159	2.197	2.444	1.640	1.313	



## Metric Coarse Hex Slotted Nuts

(For information only)

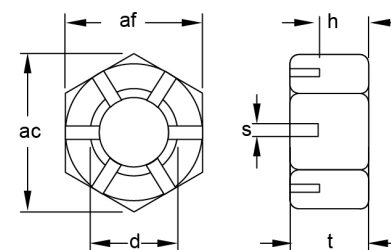
Diameter mm	af	ac	t		h		s
	Max	Max	Min	Max	Min	Max	Max
M4	7.00	8.10	4.70	5.00	2.90	3.20	1.80
M5	8.00	9.20	6.40	6.70	4.40	4.70	2.00
M6	10.00	11.50	7.34	7.70	4.90	5.20	2.60
M8	13.00	15.00	9.44	9.80	6.44	6.80	3.10
M10	16.00	18.40	11.97	12.40	8.04	8.40	3.40
M12	18.00	20.70	15.37	15.80	10.37	10.80	4.25
M14	21.00	24.20	17.10	17.80	12.10	12.80	4.25
M16	24.00	27.70	20.28	20.80	14.10	14.80	5.70
M18	27.00	31.20	21.00	21.75	15.10	15.80	5.70
M20	30.00	34.60	23.16	24.00	16.90	18.00	5.70
M22	32.00	36.90	28.30	29.05	19.80	21.10	6.70
M24	36.00	41.60	28.66	29.50	20.20	21.50	6.70
M27	41.00	47.30	30.40	31.75	22.50	23.80	6.70
M30	46.00	53.10	33.60	34.65	24.30	25.60	8.50
M36	55.00	63.50	39.00	40.00	29.40	31.00	8.50



**UNC & UNF Hex Slotted Nuts**



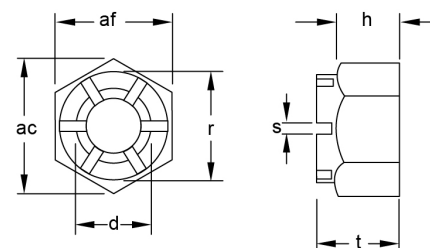
**ASME B18.2.2**



Diameter	af		ac		t		h		s
	Max	Max	Min	Max	Min	Max	Max	Max	
1/4	0.438	0.505	0.212	0.226	0.12	0.14	0.10		
5/16	0.500	0.577	0.285	0.273	0.16	0.18	0.12		
3/8	0.562	0.650	0.320	0.337	0.19	0.21	0.15		
7/16	0.688	0.794	0.365	0.385	0.21	0.23	0.15		
1/2	0.750	0.866	0.427	0.448	0.27	0.29	0.18		
9/16	0.875	1.010	0.473	0.496	0.29	0.31	0.18		
5/8	0.938	1.083	0.535	0.559	0.32	0.34	0.24		
3/4	1.125	1.299	0.617	0.665	0.38	0.40	0.24		
7/8	1.312	1.516	0.724	0.776	0.49	0.52	0.24		
1	1.500	1.732	0.831	0.887	0.56	0.59	0.30		
1 1/8	1.688	1.949	0.939	0.999	0.61	0.64	0.33		
1 1/4	1.875	2.165	1.030	1.094	0.67	0.70	0.40		
1 3/8	2.062	2.382	1.138	1.206	0.78	0.82	0.40		
1 1/2	2.250	2.598	1.245	1.317	0.82	0.86	0.46		

**Metric Coarse Pitch Thread Hex Castle Nuts**

(For information only)



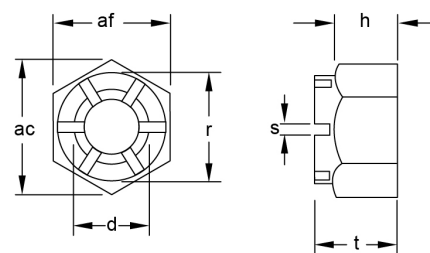
Diameter mm	af		ac		t		h	r	s
	Max	Max	Min	Max	Max	Max	Max	Max	
M10	16.00	18.40	11.97	12.40	8.40	14.00	3.40		
M12	18.00	20.70	15.37	15.80	10.80	16.00	4.25		
M14	21.00	24.20	17.10	17.80	12.80	19.00	4.25		
M16	24.00	27.70	20.28	20.80	14.80	22.00	5.00		
M18	27.00	31.20	21.00	21.75	15.80	25.00	5.70		
M20	30.00	34.60	23.16	24.00	18.00	28.00	5.70		
M22	32.00	36.90	28.30	29.05	21.10	30.00	6.70		
M24	36.00	41.60	28.66	29.50	21.50	34.00	6.70		
M27	41.00	47.30	30.40	31.75	23.80	38.00	6.70		
M30	46.00	53.10	33.60	34.60	25.60	42.00	8.50		
M33	50.00	57.70	36.30	37.65	28.70	46.00	8.50		
M36	55.00	63.50	39.00	40.00	31.00	50.00	8.50		
M39	60.00	69.30	40.80	42.40	33.40	55.00	8.50		
M42	65.00	75.10	45.80	46.80	34.80	58.00	10.50		
M48	75.00	86.60	49.60	50.80	38.80	65.00	10.50		
M56	85.00	98.10	56.60	57.80	45.80	75.00	10.50		
M64	95.00	109.70	65.75	66.95	52.00	85.00	12.80		

# NUTS

## UNC & UNF Hex Castle nuts

(For information only)

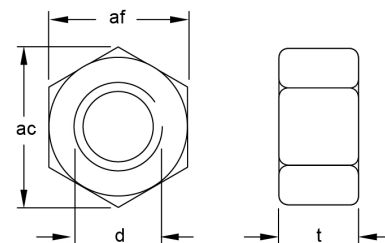
Diameter	af	ac	t		h	r	s
	Max	Max	Min	Max	Max	Max	Max
1/4	0.438	0.505	0.274	0.288	0.200	0.371	0.100
5/16	0.500	0.577	0.320	0.336	0.240	0.425	0.120
3/8	0.562	0.650	0.398	0.415	0.290	0.478	0.150
7/16	0.688	0.794	0.444	0.463	0.310	0.582	0.150
1/2	0.750	0.866	0.552	0.573	0.420	0.637	0.180
9/16	0.875	1.010	0.598	0.621	0.430	0.744	0.180
5/8	0.938	1.083	0.706	0.731	0.510	0.797	0.240
3/4	1.125	1.299	0.798	0.827	0.570	0.941	0.240
7/8	1.312	1.516	0.890	0.922	0.670	1.097	0.240
1	1.500	1.732	0.982	1.018	0.730	1.254	0.300
1 1/8	1.688	1.949	1.136	1.176	0.830	1.411	0.330
1 1/4	1.875	2.165	1.228	1.272	0.890	1.570	0.400
1 3/8	2.062	2.382	1.351	1.399	1.020	1.726	0.400
1 1/2	2.250	2.598	1.474	1.526	1.080	1.881	0.460



## Metric Coarse Pitch Thread Machined Hex Deep Nuts

(Dimensions to manufacturers standard)

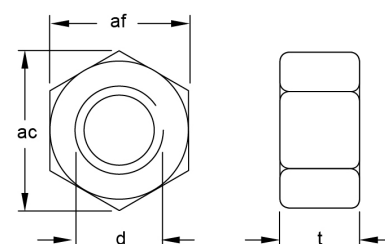
Diameter mm	Pitch mm	af	ac	t	
		Max	Max	Min	Max
M8	1.25	13.00	15.00	11.73	12.00
M10	1.50	16.00	18.40	14.75	15.00
M12	1.75	18.00	20.70	18.41	18.50
M14	2.00	20.83	24.20	19.83	20.00
M16	2.00	24.00	27.70	23.80	24.00
M18	2.50	27.00	31.20	26.34	26.50
M20	2.50	30.00	34.60	27.68	28.00
M22	2.50	31.75	36.90	32.54	32.70
M24	3.00	36.00	41.60	33.32	33.50
M30	3.50	46.00	53.10	41.10	41.30
M36	4.00	55.00	63.50	47.62	47.80



## UNC & UNF Machined Hex Deep Nuts

(Dimensions to manufacturers standard)

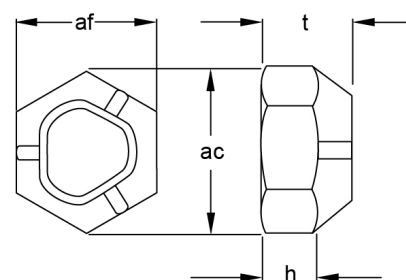
Diameter	af	ac	t
	Max	Max	Nom
1/4	0.437	0.505	3/8
5/16	0.500	0.577	29/64
3/8	0.562	0.650	1/2
7/16	0.687	0.794	39/64
1/2	0.750	0.866	11/16
9/16	0.875	1.010	9/16
5/8	0.937	1.083	27/32
3/4	1.125	1.299	1
7/8	1.312	1.516	11/16
1	1.500	1.732	1 5/16
1 1/8	1.670	1.949	1 1/2
1 1/4	1.860	2.165	1 5/8
1 1/2	2.165	2.598	1 15/16



**Metric Coarse Pitch All Metal Single-piece Prevailing Torque Locknuts**

 **DIN 980 (type V)**

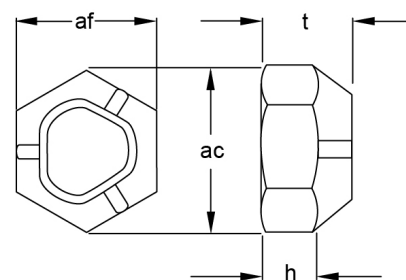
Diameter mm	Pitch mm	af		ac	t		h
		Min	Max	Min	Min	Max	Min
M5	0.80	7.78	8.00	8.79	4.80	5.10	2.75
M6	1.00	9.78	10.00	11.05	5.70	6.00	3.30
M8	1.25	12.73	13.00	14.38	7.50	8.00	4.40
M10	1.50	16.73	17.00	18.90	9.00	10.00	5.50
M12	1.75	18.67	19.00	21.10	11.00	12.00	6.60
M14	2.00	21.67	22.00	24.49	12.00	14.00	7.70
M16	2.00	23.67	24.00	26.75	14.00	16.00	8.80
M20	2.50	29.16	30.00	32.95	18.00	20.00	11.00
M24	3.00	35.00	36.00	39.55	22.00	24.00	13.20
M30	3.50	45.00	46.00	50.85	28.00	30.00	16.50
M36	4.00	53.80	55.00	60.79	34.00	36.00	19.80



**UNC & UNF All-Metal Type Prevailing Torque Locknuts**

 **ASME B18.16.6**

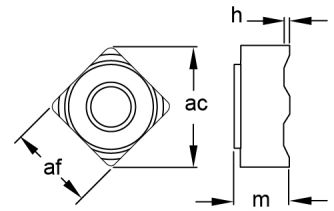
Diameter	af		ac		t		h
	Min	Max	Min	Max	Min	Max	Min
No 4	0.241	0.251	0.275	0.289	0.087	0.163	0.066
No 6	0.302	0.313	0.344	0.361	0.102	0.171	0.075
No 8	0.332	0.345	0.378	0.397	0.117	0.191	0.083
No 10	0.362	0.376	0.413	0.433	0.117	0.241	0.083
No 12	0.423	0.438	0.482	0.505	0.148	0.241	0.103
1/4	0.428	0.439	0.488	0.505	0.212	0.288	0.145
5/16	0.489	0.502	0.557	0.577	0.258	0.366	0.166
3/8	0.551	0.565	0.628	0.650	0.320	0.415	0.198
7/16	0.675	0.690	0.768	0.794	0.365	0.463	0.223
1/2	0.736	0.752	0.840	0.866	0.427	0.573	0.262
9/16	0.861	0.877	0.982	1.010	0.473	0.621	0.286
5/8	0.922	0.940	1.051	1.083	0.535	0.731	0.329
3/4	1.088	1.127	1.240	1.299	0.617	0.827	0.382
7/8	1.269	1.315	1.447	1.516	0.724	0.922	0.450
1	1.450	1.502	1.653	1.732	0.831	1.018	0.513
1 1/8	1.631	1.690	1.859	1.949	0.939	1.176	0.576
1 1/4	1.812	1.877	2.066	2.165	1.030	1.272	0.628
1 3/8	1.994	2.065	2.273	2.382	1.138	1.399	0.681
1 1/2	2.175	2.252	2.480	2.598	1.245	1.526	0.757



# NUTS

## Metric Square Pilotless Weld Nuts

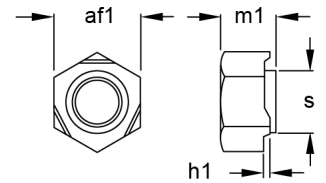
**DIN 928**



Diameter mm	Pitch mm	ac		af	h	m	Panel Thickness		Proof Load kN
		Min	Nom	Nom	Nom	Min	Max		
M4	0.70	9.0	7.00	0.60	3.50	0.75	3.00	6.80	
M5	0.80	12.0	9.00	0.80	4.20	0.88	3.50	11.00	
M6	1.00	13.0	10.00	0.80	5.00	0.88	4.00	15.50	
M8	1.25	18.0	14.00	1.00	6.50	1.00	4.50	28.30	
M10	1.50	22.0	17.00	1.20	8.00	1.25	5.00	44.80	
M12	1.75	25.0	19.00	1.40	9.50	1.50	5.00	65.30	

## Metric Hex Weld Nuts with Pilot

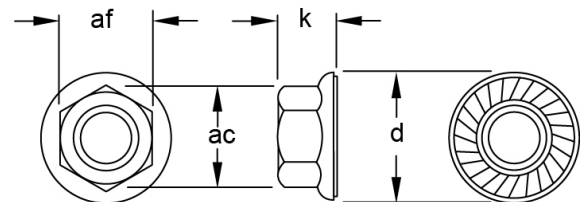
**DIN 929**



Diameter mm	Pitch mm	af1	h1	m1	s	Panel Thickness		Proof Load kN
		Nom	Nom	Nom	Nom	Min	Max	
M4	0.70	9.00	0.35	3.50	6.00	0.75	3.00	6.80
M5	0.80	10.00	0.40	4.00	7.00	0.88	3.50	11.00
M6	1.00	11.00	0.40	5.00	8.00	0.88	4.00	15.50
M8	1.25	14.00	0.50	6.50	10.50	1.00	4.50	28.30
M10	1.50	17.00	0.65	8.00	12.50	1.25	5.00	44.80
M12	1.75	19.00	0.80	10.00	14.80	1.50	5.00	65.30
M16	2.00	24.00	1.00	13.00	18.80	2.00	6.00	123.00

## Metric Flanged Serrated Hex Nuts

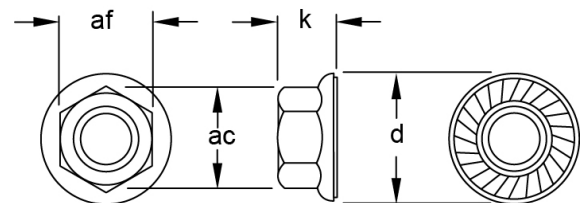
**DIN 6923**



Diameter mm	Pitch mm	af	k	d
		Max	Max	Max
M5	0.80	8.00	5.00	11.80
M6	1.00	10.00	6.00	14.20
M8	1.25	13.00	8.00	17.90
M10	1.50	15.00	10.00	21.80
M12	1.75	18.00	12.00	26.00

## UNC & UNF Flanged Serrated Hex Nuts

**IFI 145**

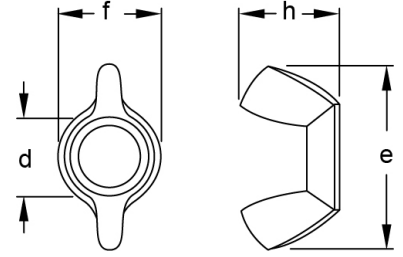


Diameter	af	ac	k	d
	Max	Max	Max	Nom
No 10	0.375	0.433	0.219	0.500
1/4	0.438	0.505	0.236	0.594
5/16	0.500	0.577	0.283	0.680
3/8	0.562	0.650	0.347	0.750
7/16	0.688	0.794	0.395	0.937
1/2	0.750	0.866	0.458	1.031

**Metric Coarse Wing Nuts**

 **UNI 5448**

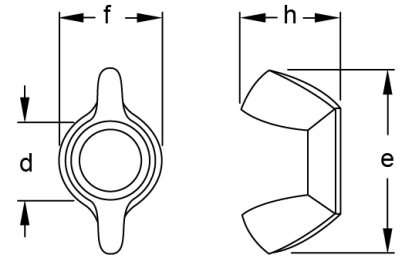
Diameter	e	f	h
	Nom	Nom	Nom
M3	17.6	8.0	8.6
M4	17.6	8.0	8.6
M5	22.5	10.3	11.0
M6	27.8	12.7	13.6
M8	30.3	13.8	14.8
M10	36.2	16.5	17.7
M12	49.4	22.5	24.1
M14	58.3	26.6	28.5
M16	28.3	26.6	28.5
M18	68.5	29.5	33.8
M20	68.5	29.5	33.8



**UNC & UNF Wing Nuts**

 **ANSI B18.17, Light Series**

Diameter	e	f	h
	Max	Max	Max
No 10	0.091	0.43	0.47
1/4	0.110	0.50	0.57
5/16	0.125	0.58	0.66
3/8	0.144	0.70	0.79
1/2	0.194	0.93	1.00



**Metric Dome Nut**

 **DIN 1587**

Diameter	a	c	k
	Max	Max	Max
M3	5.50	2.40	7.0
M4	7.00	3.20	8.0
M5	8.00	4.00	10.0
M6	10.00	5.00	12.0
M8	13.00	6.50	15.0
M10	17.00	8.00	18.0
M12	19.00	10.00	22.0
M16	24.00	13.00	28.0
M20	30.00	16.00	34.0
M24	36.00	19.00	42.0

