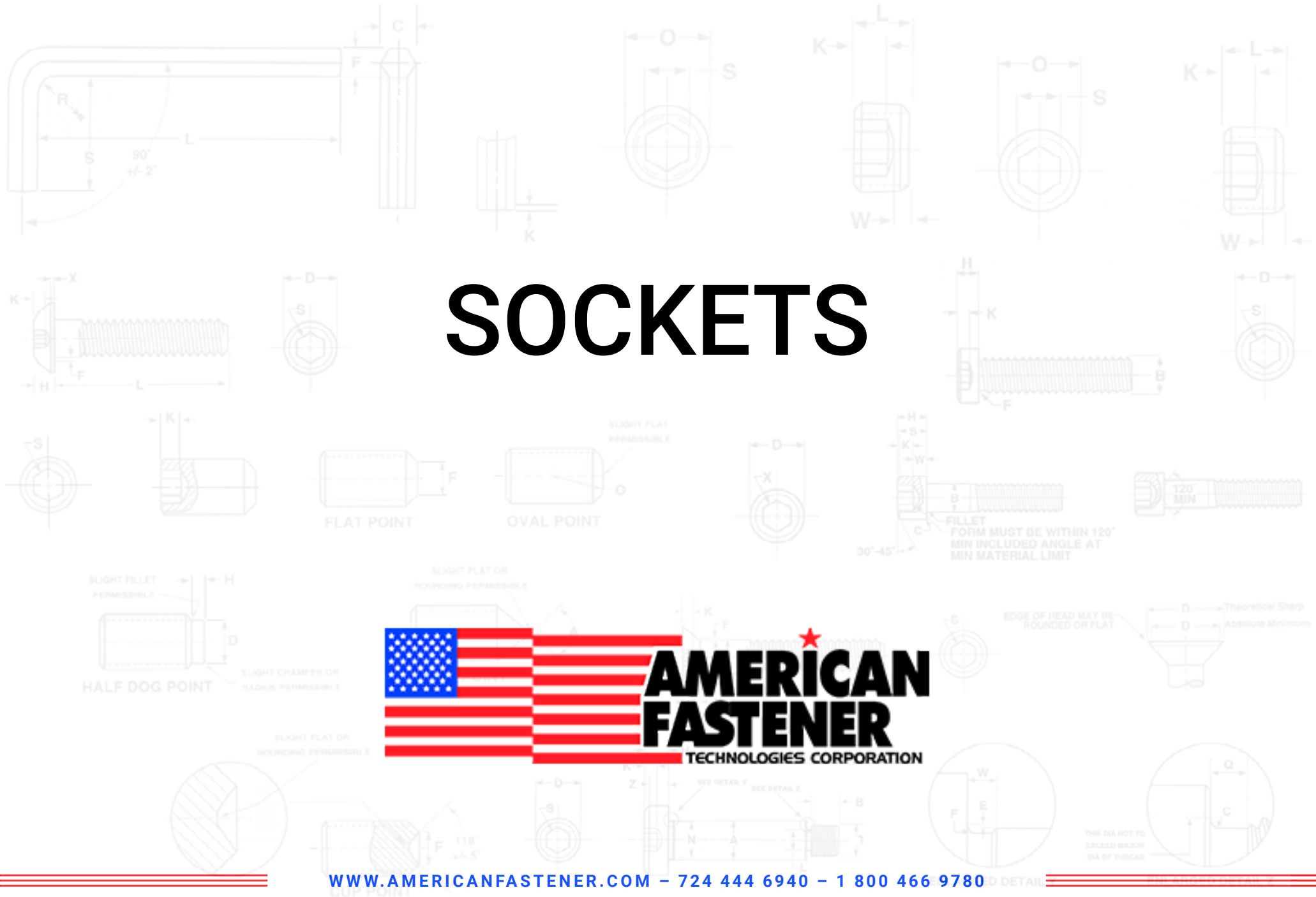
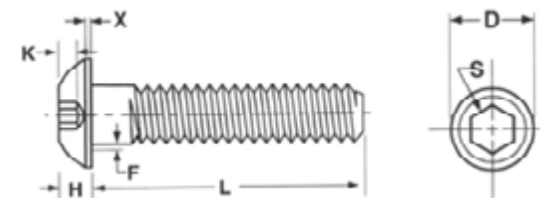


# SOCKETS



# SOCKETS

## BUTTON HEAD SOCKET CAP SCREWS

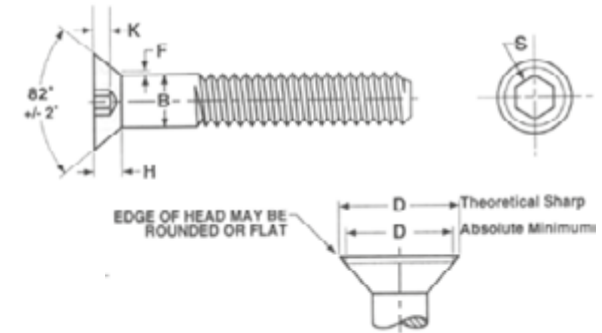


Nominal Size	D		H		X	S		K	F		L
	Head Diameter		Head Height		Head Side Height	Hexagon Socket Size		Key Engagement	Fillet Extension		Max Standard Length
	Max	Min	Max	Min	Ref	Nom		Min	Max	Min	Nom
4	0.213	0.201	0.059	0.051	0.015	1/16	0.062	0.035	0.010	0.005	0.50
5	0.238	0.226	0.066	0.055	0.015	5/64	0.078	0.044	0.010	0.005	0.50
6	0.262	0.250	0.073	0.063	0.015	5/64	0.078	0.044	0.010	0.005	0.63
8	0.312	0.298	0.087	0.077	0.015	3/32	0.094	0.052	0.015	0.010	0.75
10	0.361	0.347	0.101	0.091	0.020	1/8	0.125	0.070	0.015	0.010	1.00
1/4	0.437	0.419	0.132	0.122	0.031	5/32	0.156	0.087	0.020	0.015	1.00
5/16	0.547	0.527	0.166	0.152	0.031	3/16	0.188	0.105	0.020	0.015	1.00
3/8	0.656	0.636	0.199	0.185	0.031	7/32	0.219	0.122	0.020	0.015	1.25
1/2	0.875	0.851	0.265	0.245	0.046	5/16	0.312	0.175	0.030	0.020	2.00
5/8	1.000	0.970	0.331	0.311	0.062	3/8	0.375	0.210	0.030	0.020	2.00



# SOCKETS

## FLAT HEAD SOCKET CAP SCREWS

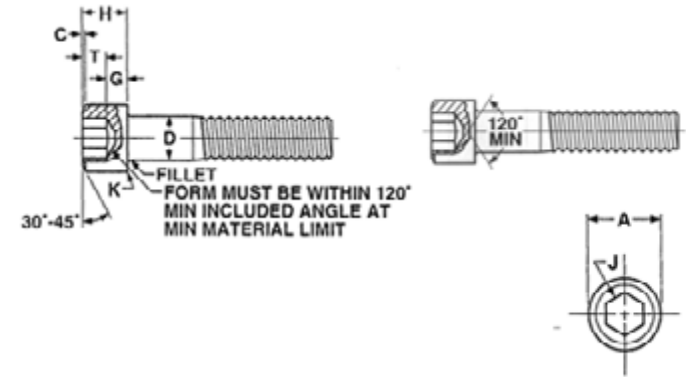


Nominal Size	B		D		H		S	K	F
	Body Diameter		Head Diameter		Head Height		Hexagon Socket Size	Key Engagement	Fillet Extension Above 0
	Max	Min	Theoretical Sharp Max	Abs Min	Reference	Flushness Tolerance	Nom	Min	Max
4	0.1120	0.1075	0.255	0.218	0.083	0.011	1/16	0.055	0.012
5	0.1250	0.1202	0.281	0.240	0.090	0.012	5/64	0.061	0.014
6	0.1380	0.1329	0.307	0.263	0.097	0.013	5/64	0.066	0.015
8	0.1640	0.1585	0.359	0.311	0.112	0.014	3/32	0.076	0.015
10	0.1900	0.1840	0.411	0.359	0.127	0.015	1/8	0.087	0.015
1/4	0.2500	0.2435	0.531	0.480	0.161	0.016	5/32	0.111	0.015
5/16	0.3125	0.3053	0.656	0.600	0.198	0.017	3/16	0.135	0.015
3/8	0.3750	0.3678	0.781	0.720	0.234	0.018	7/32	0.159	0.015
7/16	0.4375	0.4294	0.844	0.781	0.234	0.018	1/4	0.159	0.015
1/2	0.5000	0.4919	0.938	0.872	0.251	0.018	5/16	0.172	0.015
5/8	0.6250	0.6163	1.188	1.112	0.324	0.022	3/8	0.220	0.015
3/4	0.7500	0.7406	1.438	1.355	0.396	0.024	1/2	0.220	0.015



# SOCKETS

## SOCKET HEAD CAP SCREWS

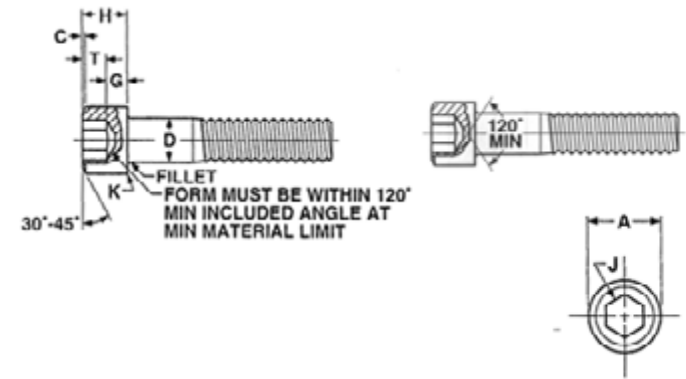


Basic Screw Diam.	D		A		H		C	J			T	G	K
	Body Diameter		Head Diameter		Head Height		Top Chamfer or Radius	Hexagon Socket Size and Width Across Flats			Key Engagement	Wall Thickness	Bottom Chamfer or Radius
	Max	Min	Max	Min	Max	Min	Min	Nom	Max	Min	Min	Min	Max
0	0.0600	0.0568	0.096	0.091	0.060	0.057	0.004	0.050	0.0510	0.0500	0.025	0.020	0.007
1	0.0730	0.0695	0.118	0.112	0.073	0.070	0.005	1/16	0.0635	0.0635	0.031	0.025	0.007
2	0.0860	0.0822	0.140	0.134	0.086	0.083	0.008	5/64	0.0791	0.0781	0.038	0.029	0.007
3	0.0990	0.0949	0.161	0.154	0.099	0.095	0.008	5/64	0.0791	0.0781	0.044	0.034	0.007
4	0.1120	0.1075	0.183	0.176	0.112	0.108	0.009	3/32	0.0952	0.0937	0.051	0.038	0.008
5	0.1250	0.1202	0.205	0.198	0.125	0.121	0.012	3/32	0.0952	0.0937	0.057	0.043	0.008
6	0.1380	0.1329	0.226	0.218	0.138	0.134	0.013	7/64	0.1111	0.1094	0.064	0.047	0.008
8	0.1640	0.1585	0.270	0.262	0.164	0.159	0.014	9/64	0.1426	0.1406	0.077	0.056	0.008
10	0.1900	0.1840	0.312	0.303	0.190	0.185	0.016	5/32	0.1587	0.1562	0.090	0.065	0.008
1/4	0.2500	0.2435	0.375	0.365	0.250	0.244	0.025	3/16	0.1900	0.1875	0.120	0.095	0.010
5/16	0.3125	0.3053	0.469	0.457	0.312	0.306	0.033	1/4	0.2530	0.2500	0.151	0.119	0.010
3/8	0.3750	0.3678	0.562	0.550	0.375	0.368	0.040	5/16	0.3160	0.3125	0.182	0.143	0.010
7/16	0.4375	0.4294	0.656	0.642	0.438	0.430	0.047	3/8	0.3790	0.3750	0.213	0.166	0.010
1/2	0.5000	0.4919	0.750	0.735	0.500	0.492	0.055	3/8	0.3790	0.3750	0.245	0.190	0.015



# SOCKETS

## SOCKET HEAD CAP SCREWS

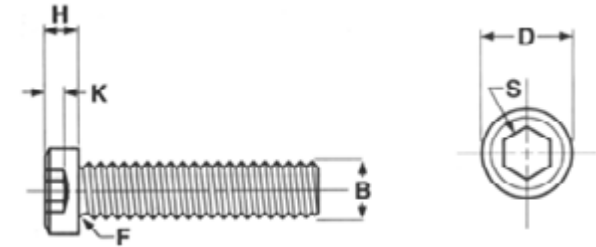


Basic Screw Diam.	D		A		H		C	J			T	G	K
	Body Diameter		Head Diameter		Head Height		Top Chamfer or Radius	Hexagon Socket Size and Width Across Flats			Key Engagement	Wall Thickness	Bottom Chamfer or Radius
	Max	Min	Max	Min	Max	Min	Min	Nom	Max	Min	Min	Min	Max
5/8	0.6250	0.6163	0.938	0.921	0.625	0.616	0.070	1/2	0.5050	0.5000	0.307	0.238	0.015
3/4	0.7500	0.7406	1.125	1.107	0.750	0.740	0.085	5/8	0.6310	0.6250	0.370	0.285	0.015
7/8	0.8750	0.8647	1.312	1.293	0.875	0.864	0.100	3/4	0.7570	0.7500	0.432	0.333	0.020
1	10.000	0.9886	1.500	1.479	1.000	0.988	0.114	3/4	0.7570	0.7500	0.495	0.380	0.020
1 1/4	12.500	12.336	1.875	1.852	1.250	1.236	0.144	7/8	0.8850	0.8750	0.620	0.475	0.020
1 1/2	15.000	14.818	2.250	2.224	1.500	1.485	0.176	1	10.100	10.000	0.745	0.570	0.020
<b>Nominal Screw Length</b>													
<b>Tolerance on Length</b>		<b>Nominal Screw Size</b>		<b>Up to 1 in., Incl.</b>				<b>Over 1 in. to 2-1/2 in., Incl.</b>		<b>Over 2-1/2 to 6 in., Incl.</b>		<b>Over 6 in.</b>	
		0 thru 3/8, Incl.		-0.03				-0.04		-0.06		-0.12	
		7/16 thru 3/4, Incl.		-0.03				-0.06		-0.08		-0.12	
7/8 thru 1-1/2, Incl.		-0.05				-0.10		-0.14		-0.20			



# SOCKETS

## LOW HEAD SOCKET CAP SCREWS

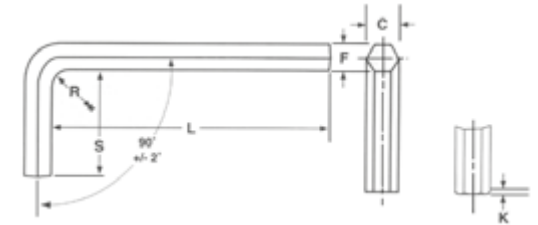


Nominal Size	B Basic Screw Diameter	D Head Dia meter		H Head Height		S Socket Size	K Engagement	F Fillet	
		Max	Min	Max	Min		Min	Max	Min
8	0.1640	.270	.265	.082	.079	.0781	.060	.012	.007
10	0.1900	.312	.307	.095	.092	.0938	.072	.014	.009
1/4	0.2500	.375	.369	.125	.121	.1250	.094	.014	.009
5/16	0.3125	.437	.431	.156	.152	.1562	.120	.017	.012
3/8	0.3750	.562	.556	.187	.182	.1875	.145	.020	.015
7/16	0.4375	.625	.618	.218	.213	.2188	.166	.023	.018
1/2	0.5000	.750	.743	.250	.244	.2500	.184	.026	.020



# SOCKETS

## HEX WRENCH

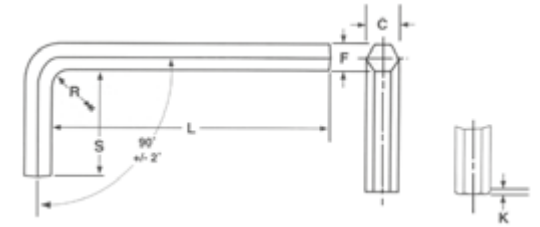


Nominal Key Size	F		C		S		L				R	K
	Hexagon Width Across Flats		Hexagon Width Across Corner		Length of Short Arm		Length of Long Arm				Radius of Bend	Chamfer
	Max	Min	Max	Min	Max	Min	Short Series		Long Series			
							Max	Min	Max	Min	Min	Max
0.028	0.0280	0.0275	0.0314	0.0300	0.312	0.125	1.312	1.125	2.688	2.500	0.062	0.003
0.035	0.0350	0.0345	0.0393	0.0378	0.438	0.250	1.312	1.125	2.766	2.578	0.062	0.004
0.050	0.0500	0.0490	0.0560	0.0540	0.625	0.438	1.750	1.562	2.938	2.750	0.062	0.006
1/16	0.0625	0.0615	0.0701	0.0680	0.656	0.469	1.844	1.656	3.094	2.906	0.062	0.008
5/64	0.0781	0.0771	0.0880	0.0859	0.703	0.516	1.969	1.781	3.281	3.094	0.078	0.008
3/32	0.0937	0.0927	0.1058	0.1035	0.750	0.562	2.094	1.906	3.469	3.281	0.094	0.009
7/64	0.1094	0.1079	0.1238	0.1210	0.797	0.609	2.219	2.031	3.656	3.469	0.109	0.014
1/8	0.1250	0.1235	0.1418	0.1390	0.844	0.656	2.344	2.156	3.844	3.656	0.125	0.015
9/64	0.1406	0.1391	0.1593	0.1566	0.891	0.703	2.469	2.281	4.031	3.844	0.141	0.016
5/32	0.1562	0.1547	0.1774	0.1745	0.938	0.750	2.594	2.406	4.219	4.031	0.156	0.016
3/16	0.1875	0.1860	0.2135	0.2105	1.031	0.844	2.844	2.656	4.594	4.406	0.188	0.022



# SOCKETS

## HEX WRENCH



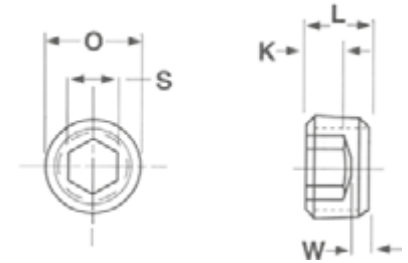
Nominal Key Size	F		C		S		L				R	K
	Hexagon Width Across Flats		Hexagon Width Across Corner		Length of Short Arm		Length of Long Arm				Radius of Bend	Chamfer
	Max	Min	Max	Min	Max	Min	Short Series		Long Series			
							Max	Min	Max	Min	Min	Max
7/32	0.2187	0.2172	0.2490	0.2460	1.125	0.938	3.094	2.906	4.969	4.781	0.219	0.024
1/4	0.2500	0.2485	0.2845	0.2815	1.219	1.031	3.344	3.156	5.344	5.156	0.250	0.030
5/16	0.3125	0.3110	0.3570	0.3531	1.344	1.156	3.844	3.656	6.094	5.906	0.312	0.032
3/8	0.3750	0.3735	0.4285	0.4238	1.469	1.281	4.344	4.156	6.844	6.656	0.375	0.044
7/16	0.4375	0.4355	0.5005	0.4944	1.594	1.406	4.844	4.656	7.594	7.406	0.438	0.047
1/2	0.5000	0.4975	0.5715	0.5650	1.719	1.531	5.344	5.156	8.344	8.156	0.500	0.050
9/16	0.5625	0.5600	0.6420	0.6356	1.844	1.656	5.844	5.656	9.094	8.906	0.562	0.053
5/8	0.6250	0.6225	0.7146	0.7080	1.969	1.781	6.344	6.156	9.844	9.656	0.625	0.055
3/4	0.7500	0.7470	0.8580	0.8512	2.219	2.031	7.344	7.156	11.344	11.156	0.750	0.070
7/8	0.8750	0.8720	1.0020	0.9931	2.469	2.281	8.344	8.156	12.844	12.656	0.875	0.076
1	1.0000	0.9970	1.1470	1.1350	2.719	2.531	9.344	9.156	14.344	14.156	1.000	0.081





# SOCKETS

## SOCKET PIPE PLUG FLUSH SEAL

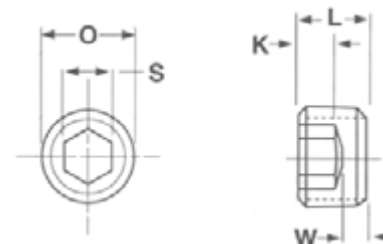


Nominal Size	O	Threads Per Inch	S	K	W	L		Tightening Torque (Inch-Lbs.)
	Nominal O.D.		Hex Socket Size	Key Engagement	Wall Thickness	Overall Length		
				Min	Min	Max	Min	
1/16	0.307	27	5/32	.140	.052	.250	.235	150
1/8	0.401	27	3/16	.140	.049	.250	.235	250
1/4	0.529	18	1/4	.218	.045	.406	.391	600
3/8	0.667	18	5/16	.250	.040	.406	.391	1200
1/2	0.830	14	3/8	.312	.067	.531	.516	1800
3/4	1.041	14	9/16	.312	.054	.531	.516	3000
1	1.302	11-1/2	5/8	.375	.112	.656	.641	4200
1-1/4	1.647	11-1/2	3/4	.437	.102	.656	.641	5400



# SOCKETS

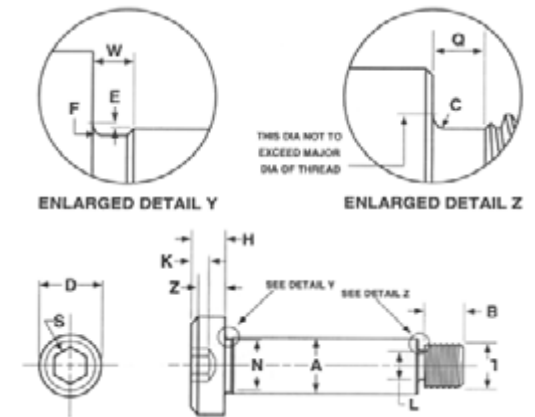
## SOCKET PIPE PLUG DRY SEAL



Nominal Size	O	Threads Per Inch	S	K	W	L		Tightening Torque (Inch-Lbs.)
	Nominal O.D.		Hex Socket Size	Key Engagement	Wall Thickness	Overall Length		
				Min	Min	Max	Min	
1/16	0.3120	27	5/32	.1400	.0620	.3240	.3000	150
1/8	0.4050	27	3/16	.1400	.0620	.3240	.3000	250
1/4	0.5400	18	1/4	.2180	.0730	.4570	.4170	600
3/8	0.6750	18	5/16	.2500	.0840	.5200	.4800	1200
1/2	0.8400	14	3/8	.3120	.0950	.5820	.5420	1800
3/4	1.0500	14	9/16	.3120	.1250	.6450	.6050	3000
1	1.3150	11-1/2	5/8	.3750	.1250	.7700	.7300	4200
1-1/4	1.6600	11-1/2	3/4	.4370	.1560	.8320	.7920	5400
1-1/2	1.9000	11-1/2	1	.4370	.1560	.8430	.7800	6900
2	2.3750	11-1/2	1	.4370	.1560	.9060	.8440	8500

# SOCKETS

## SOCKET SHOULDER SCREWS

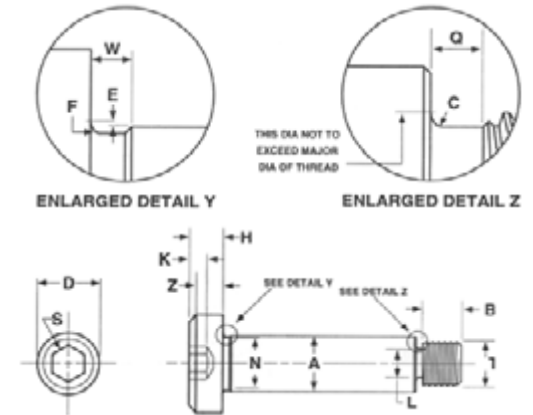


Nominal Size	A		D		H		Z	S	K	E	F
	Shoulder Diameter		Head Diameter		Head Height		Head Side Height	Hexagon Socket Size	Key Engagement	Head Fillet Extension Above D	Head Fillet Radius
	Max	Min	Max	Min	Max	Min	Min	Nom	Min	Max	Min
1/4	0.2480	0.2460	0.375	0.357	0.188	0.177	0.157	1/8	0.094	0.014	0.009
5/16	0.3105	0.3085	0.438	0.419	0.219	0.209	0.183	5/32	0.117	0.017	0.012
3/8	0.3730	0.3710	0.562	0.543	0.250	0.240	0.209	3/16	0.141	0.020	0.015
1/2	0.4980	0.4960	0.750	0.729	0.312	0.302	0.262	1/4	0.188	0.026	0.020
5/8	0.6230	0.6210	0.875	0.853	0.375	0.365	0.315	5/16	0.234	0.032	0.024
3/4	0.7480	0.7460	1.000	0.977	0.500	0.490	0.421	3/8	0.281	0.039	0.030



# SOCKETS

## SOCKET SHOULDER SCREWS



Nominal Size	N	W	T		L		Q	C		B
	Shoulder Neck Diameter	Shoulder Neck Width	Nominal Thread Size	Threads Per In.	Thread Neck Diameter		Thread Neck	Thread Neck Fillet		Thread Length
					Max	Min		Max	Min	
1/4	0.227	0.093	10	24	0.142	0.133	0.083	0.023	0.017	0.375
5/16	0.289	0.093	1/4	20	0.193	0.182	0.100	0.028	0.022	0.438
3/8	0.352	0.093	5/16	18	0.249	0.237	0.111	0.031	0.025	0.500
1/2	0.477	0.093	3/8	16	0.304	0.291	0.125	0.035	0.029	0.625
5/8	0.602	0.093	1/2	13	0.414	0.397	0.154	0.042	0.036	0.750
3/4	0.727	0.093	5/8	11	0.521	0.502	0.182	0.051	0.045	0.875



# SOCKETS

## SOCKET SET SCREWS

Nominal Size	S	K	F		O	D		H		Shortest Length To Which K Applies			A
	Hexagon Socket Size	Min Key Engagement	Cup & Flat Point Diameter		Oval Point Radius	Half Dog Point				Cup & Flat Points	90° Cone & Oval Pts.	Half Dog Point	Cone Pt. Angle 90° For These Lengths or Longer
						Diameter		Length					
						Nom	Min	Max	Min				
4	0.050	0.070	0.061	0.051	0.084	0.075	0.070	0.030	0.026	0.19	0.19	0.19	0.19
5	1/16	0.080	0.067	0.057	0.094	0.083	0.078	0.033	0.027	0.19	0.19	0.19	0.19
6	1/16	0.080	0.074	0.064	0.104	0.092	0.087	0.038	0.032	0.19	0.25	0.19	0.19
8	5/64	0.090	0.087	0.076	0.123	0.109	0.103	0.043	0.037	0.19	0.25	0.25	0.25
10	3/32	0.100	0.102	0.088	0.142	0.127	0.120	0.049	0.041	0.19	0.25	0.25	0.25
1/4	1/8	0.125	0.132	0.118	0.188	0.156	0.149	0.067	0.059	0.25	0.31	0.31	0.31
5/16	5/32	0.156	0.172	0.156	0.234	0.203	0.195	0.082	0.074	0.31	0.44	0.38	0.38
3/8	3/16	0.188	0.212	0.194	0.281	0.250	0.241	0.099	0.089	0.38	0.44	0.44	0.44
7/16	7/32	0.219	0.252	0.232	0.328	0.297	0.287	0.114	0.104	0.44	0.63	0.50	0.50
1/2	1/4	0.250	0.291	0.270	0.375	0.344	0.334	0.130	0.120	0.50	0.63	0.63	0.57
5/8	5/16	0.312	0.371	0.347	0.469	0.469	0.456	0.164	0.148	0.63	0.88	0.88	0.75
3/4	3/8	0.375	0.450	0.425	0.562	0.562	0.549	0.196	0.180	0.75	1.00	1.00	0.88
7/8	1/2	0.500	0.530	0.502	0.656	0.656	0.642	0.227	0.211	0.88	1.00	1.00	1.00
1	9/16	0.562	0.609	0.579	0.750	0.750	0.734	0.260	0.240	1.00	1.25	1.25	1.13

# SOCKETS

## SOCKET SET SCREWS

