
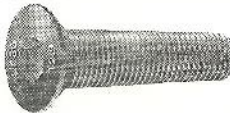

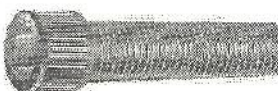



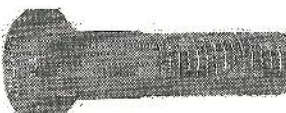






QUICK PRODUCTION SELECTION GUIDE

PRODUCT	Tensile Strength		Size Range				Equivalent Standards					
	Property Class		Diameter		Length							
	Psi. Min.	N/mm ²	Metric	Inch*	Metric	Inch*	IS	ISO	DIN	BS	ANSI	JIS
Socket Head Cap Screws 	190000	1,300 (12.9)	M3 to M42	1/8 to 1"	6 to 300 mm	3/8" to 1"	2269	4762	912	4168 2470	B18.3.1M	B1176
Socket Countersunk Head Screws 	160000	1,050 (12.9)	M3 to M16	3/16" to 5/16"	6 to 60 mm	3/8" to 1 1/4"	6761	--	7991	4168 2470	B18.3.5M	--
Socket Button Head Cap Screws 	--	1,050 (12.9)	M3 to M10	--	6 to 50 mm	--	--	7380	9427	4168	B18.3.4M	--
Socket Set Low Head Cap Screws 		1,050 (12.9)	M3 to M12	--	10 to 90 mm	--	--	--	6912 7984	--	--	--
Socket Set Screws Knurled Cup Screws 		Hardness HRc 45 Min.	M3 to M20	1/8" to 3/4"	3 to 75 mm	1/8" to 3"	6094	4026 4027 4028 4029	913 914 915 916	4168 2470	B18.3.6M	B1177
Pressure Plugs 	500 (5.8)	Hardness HRb 78-79	M18 to M30	1/8" to 1"***	--	--	9645	--	906	--	--	--
Hex Wrenches 		Hardness HRc 47 Min.	1.5 to 32 mm	1/16" to 3/4"	--	--	3082	2936	911	4168 2470	B18.3.2M	B4648
Hex Head Bolts 	800/830 (8.8) 1,040 (10.9)	Grade R,S V	M4 to M42	1/4" to 1"	10 to 300 mm	1/2" to 8"	1364	4014 4017	931 933	1083 1768	B18.2.1	B1180
Hex Nuts 	Nut Grade 8/10	Nut Grade 8/5	M10 to M42	--	--	--	1364	4032	934	1083 1768	B18.2.4.1M B18.2.2	B1181
High Strength Structural Bolts, Nuts, Washers 	Bolts 8.8/10.9 Nuts 8/10	--	M16 to M30	--	40 to 300 mm	--	3757 6623 6649	7412 4775 7415	6914 6915 6916	4395	B18.2.3.7M B18.2.4.6M	B1186
Stud With 2 Heavy nuts 	Stud B7 Nut 2H		M12-M36	1/2" to 2-1/4"	50 to 500 mm	2-1/4" to 27"					A193 A194	
Special Products 		800/830 (8.8) 1,040 (10.9)	M3 to M42	1/8" to 1"	6 to 410 mm	3/8" to 12"					As per customer specifications	

* Thread type in any of the following inch series : BSW, BA, UNC & UNF

** Thread type in NPTF

Note : DFL standards meet, or in many instances, exceed the requirements of the standards listed.

Plating: No guarantee can be given for DFL products which have been plated by the users and / or outside plates, who may not have considered hydrogen embrittlement problem.

THREAD SIZE COMPARISON

METRIC PRODUCTS							UNIFIED INCH PRODUCTS				B.S. INCH PRODUCTS					
SIZE	THREAD PITCH & T.P.I.				Major Dia		SIZE	T.P.I.		Major Dia	SIZE	T.P.I.		Major Dia	T.P.I.	Major Dia
	COARSE		FINE					UNC	UNF			inch	BSW			
	PITCH (mm)	T.P.I.	PITCH mm	T.P.I.	mm	Inch				BSW				BSF		
M3	0.50	51	--	--	3.00	0.118	#5	40	44	0.125	1/8	40	--	0.125		
							#6	32	40	0.138	5 BA			43.1	0.126	
											4 BA			38.5	0.142	
M4	0.70	36	--	--	4.00	0.157	#8	32	36	0.164	3 BA	24	32	0.187	34.8	0.161
M5	0.80	32	--	--	5.00	0.197	#10	24	32	0.190	3/16					
											2 BA			31.3	0.185	
											1 BA			28.2	0.209	
M6	1.0	25	--	--	6.00	0.236	1/4	20	28	0.250	1/4	20	26	0.250	25.4	0.236
											0 BA					
M8	1.25	20	1.00	25	8.00	0.315	5/16	18	24	0.313	5/16	18	22	0.313		
M10	1.50	17	1.25	20	10.00	0.394	3/8	16	24	0.375	3/8	16	20	0.375		
											7/16	14	18	0.438		
M12	1.75	14.5	1.25	20	12.00	0.472	1/2	13	20	0.500	1/2	12	16	0.500		
(M14)	2.00	12.5	1.50	17	14.00	0.551										
M16	2.00	12.5	1.50	17	16.00	0.630	5/8	11	18	0.625	5/8	11	14	0.625		
(M18)	2.50	10	1.50	17	18.00	0.709										
M20	2.50	10	1.50	17	20.00	0.787	3/4	10	16	0.750	3/4	10	12	0.750		
(M22)	2.50	10	1.50	17	22.00	0.866	7/8	9	14	0.875	7/8	9	11	0.875		
M24	3.00	8.5	2.00	13	24.00	0.945	1	8	12	1.000	1	8	10	1.000		
							1-1/8	7	12	1.125	1-1/8	7	9	1.125		
(M27)	3.00	8.50	2.00	13	27.00	1.063										
M30	3.50	7.25	2.00	13	30.00	1.181	1-1/4	7	12	1.250	1-1/4	7	9	1.250		
(M33)	3.50	7.25	2.00	13	33.00	1.299	1-1/2			1.500	1-1/2			1.500		
M36	4.00	6.40	3.00	8.5	36.00	1.417		6	12			6	8			
(M39)	4.00	6.40	3.00	8.5	39.00	1.535										
M42	4.50	5.60	3.00	8.5	42.00	1.653										

Note: Sizes in brackets are non-preferred standards

Plating: No guarantee can be given for DFL products which have been plated by the users and / or outside platers, who may not have considered hydrogen embrittlement problem.

SOCKET HEAD CAP SCREW

METRIC SERIES
M3 TO M20

Recommended Consumer Net Prices in Rupees Per 100 Pieces
Exclusive of Excise Duty, CESS, Freight & Octroi and Other Taxes

Diameter (mm)	M2	M2.5	M3	M4	M5	M6	M8	M10	M12	M14	M16
	Wrench 1.5mm	Wrench 2mm	Wrench 2.5mm	Wrench 3mm	Wrench 4mm	Wrench 5mm	Wrench 6mm	Wrench 8mm	Wrench 10mm	Wrench 12mm	Wrench 14mm
3	1275										
4	571										
5	581	551	899								
6	592	571	774	731							
8	602	587	566	517	534	725					
10	612	602	473	411	295	480	932				
12	632	663	473	370	295	455	703	1150			
16			471	387	323	432	585	1070			
20			471	414	347	480	629	1115	2637		5906
25			518	454	370	539	645	1065	2310	6171	5746
30			606	539	450	609	772	1142	2194	6003	5746
35			757	590	493	667	773	1233	2233	5047	4715
40			867	652	539	725	885	1471	2254	5166	4699
45			959	745	585	785	1033	1627	2469	5260	5036
50				854	590	855	1088	1780	2345	5378	5020
55				1372	1010	931	1201	1922	2810	5445	5344
60				2751	1295	1722	1292	2079	2894	5769	5247
65					1404	1786	1406	2246	3038	5856	5875
70					1511	1863	1544	2421	3199	6314	6340
75					1840	2037	1593	2579	3439	6686	6891
80					1944	2208	2299	3567	4015	6999	7018
90					2146	2371	2668	4078	4540	7158	7822
100						2676	3165	4647	5016	8885	8912
110						3613	3955	5504	6177	9924	9949
120						3952	4619	5567	7102	10431	10466
130						4264	5605	7579	8403	11786	11929
140						4576	6020	8457	9370	12934	12776
150						4867	6502	9406	10358	13823	13614
160							7129	11758	17078	14342	27109
170							7696	12964	19300	15664	30191
180							8112	13227	18776	16586	31034
200							8965	14138	20327	18720	33362
220									22490	20592	38509
230									28167	21424	43659
240									33765	22360	45245
260									38585	24024	57120
280									40425	25896	68988
300											73915
Qty. Per Box.					200			50	20		10

1. Specifications : Generally conforming to IS : 2259, DIN 912, ISO :4762. 2. Threads : ISO Metric (Coarse Series) 4g6g as per IS:4218, ISO:261, ISO:965
 3. Material : UNBRAKO High Grade Alloy Steel. 4. Mechanical Properties : Property Class 12.9 as per IS:1367, ISO:898 Part I.
 5. Note : Upto 80MM Dia can be manufactured against request. 6. For sizes beyond those listed, prices on application.
 7. Plating : No guarantee can be given for UNBRAKO products which have been plated by the users and / or outside parties, who may not have considered hydrogen embrittlement problem.
 For sizes M6 and above - if the order quantity is less than one carton then 3% extra packing charges will be applicable.
 Brochure with carton quantity information available separately.



SOCKET HEAD CAP SCREWS

METRIC SERIES
M22 TO M42

Recommended Consumer Net Prices in Rupees Per 100 Pieces
Exclusive of Excise Duty, CESS, Freight & Octroi and Other Taxes

Diameter (mm) Length (mm)	M18	M20	M22	M24	M27	M30	M33	M36	M42
	Wrench 14mm	Wrench 17mm	Wrench 17mm	Wrench 19mm	Wrench 19mm	Wrench 22mm	Wrench 24mm	Wrench 27mm	Wrench 32mm
25		14059							
30	16124	13677							
35	16326	13857							
40	14296	12131							
45	14400	12557		16157					
50	14512	11697	17334	15477					
55	14602	12390	18970	17418					
60	14719	11856	20044	17904	31824	31689			
65	14839	12597	21717	19035	33800	31470			
70	15847	13453	22739	20308	34519	34836			
75	16882	14330	24105	21516	36272	36314	56068		
80	17210	13878	25335	22630	38699	37685	56619	68010	
90	17559	14900	25857	23739	41425	39589	63169	74253	104896
100	18420	16060	28024	25035	44187	44237	66008	74274	114913
110	20382	17777	29655	26477	46951	46998	67673	78308	118036
120	22323	19493	32049	29425	49711	49761	73871	81690	128362
130	24856	21187	43326	30769	53162	53215	79494	84396	131122
140	27595	22889	49245	32903	55234	56835	82171	93176	141877
150	28841	25065	65654	35053	58691	58755	86316	96535	144854
160	30765	32125	77384	58329	69521	88416	114280	129911	202587
170	36432	36688	80341						
180	43276	36688	85115	60890	102190	97648	127046	145153	215010
200	46072	38268	91100	65182	111171	106225	138093	157307	232937
220	50440	39860	97377	69760	138580	131909	171136	194496	292228
230	53040	51166	101570						
240	55120	62470	108047	74343	153557	141856	184360	199846	304609
260	59280	76632	115991	76668	167261	151756	192861	214029	324902
280	63440	90782	120569	80548	178517	161702	203477	228256	345214
300	67600	97266	129182	86303	188339	171650	219366	249259	365521
Qty Per Box			10				5		

1. Specifications : Generally conforming to IS : 2269, DIN 912, ISO : 4762.
2. Threads : ISO Metric (Coarse Series) 4g6g as per IS:4218, ISO:261, ISO:965
3. Material : UNBRAKO High Grade Alloy Steel.
4. Mechanical Properties : Property Class 12.9 as per IS:1367, ISO:898 Part I.
5. Note : Upto 80MM Dia can be manufactured against request.
6. For sizes beyond those listed, prices on application.
7. Plating : No guarantee can be given for UNBRAKO products which have been plated by the users and / or outside plates, who may not have considered hydrogen embrittlement problem.

For sizes M6 and above - if the order quantity is less than one carton then 3% extra packing charges will be applicable.
Brochure with carton quantity information available separately.

SOCKET HEAD CAP SCREWS

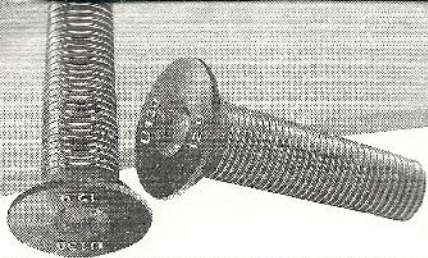
INCH SERIES BSW
3/16" TO 1"

Recommended Consumer Net Prices in Rupees Per 100 Pieces
Exclusive of Excise Duty, CESS, Freight & Octroi and Other Taxes

Diameter (Inch)	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
	Wrench 5/32"	Wrench 3/16"	Wrench 7/32"	Wrench 5/16"	Wrench 5/16"	Wrench 3/8"	Wrench 1/2"	Wrench 9/16"	Wrench 9/16"	Wrench 5/8"
3/8	413	494								
1/2	413	480	682	1033						
5/8	365	470	581	1004						
3/4	413	494	624	861	2392	2710				
7/8	439	510	633	982	2392	2710	5116			
1	463	553	677	955	2314	2303	4977	12768		
1 1/4	511	609	776	1047	2314	2413	4326	12421		
1 1/2	584	698	868	1166	2360	2456	4477	10955	17643	16538
1 3/4	665	855	1026	1392	2523	2624	4763	11205	18852	17188
2	665	832	1026	1447	2523	2743	4988	11518	18340	17517
2 1/4	787	1686	1232	1670	2900	3162	5420	11767	20308	19410
2 1/2	875	1734	1232	1794	3038	3298	5571	11767	19757	19410
2 3/4		2029	1504	2008	3271	3582	5950	13027	22837	21862
3		2029	1504	2008	3333	3894	6116	13391	22261	21268
3 1/4		2432	2510	2940	4434	4656	6835	13912	25237	23452
3 1/2		2365	2510	3011	4313	4656	7132	13534	24551	23452
4		2679	2979	3534	4995	5536	8473	14588	25903	25905
4 1/2			4804	5356	7373	6615	8746	17252	30458	29018
5			5413	6356	7173	8144	9646	18745	33635	32144
5 1/2				7639	8405	8967	12313	21321	35021	33458
6				8087	8413	9282	13417	23402	38342	37340
6 1/2						18413	27725	29914	66566	61431
7						18783	28499	30608	66566	63641
7 1/2						19519	29591	32178	68972	65916
8						20908	30577	31937	68553	68126
8 1/2							41129	38093	74367	74497
9							40095	38093	74367	76643
10							52464	42326		85159
Qty. per cartoon	200	200	100	50			10			

1. Specification : Generally conforming to BS : 2470
2. Threads : BS Whitworth Fine, Medium class as per BS: 84
3. Material : UNBRAKO High Grade Alloy Steel.
4. Mechanical Properties : As per BS 2470
5. Note : Upto 80MM Dia can be manufactured against request.
6. Plating : No guarantee can be given for UNBRAKO products which have been plated by the user and / or outside plates, who may not have considered hydrogen embrittlement problem.

For sizes M6 and above - if the order quantity is less than one carton then 3% extra packing charges will be applicable.
Brochure with carton quantity information available separately.



SOCKET COUNTERSUNK HEAD CAP SCREWS (CSK)

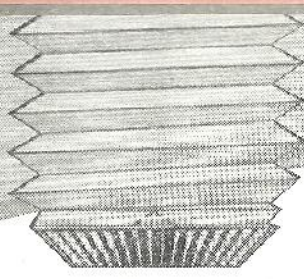
METRIC SERIES
M3 TO M16

Recommended Consumer Net Prices in Rupees Per 100 Pieces
Exclusive of Excise Duty, CESS, Freight & Octroi and Other Taxes

Diameter (Inch)	M3	M4	M5	M6	M8	M10	M12	M16	M20	M24
	Wrench 2mm	Wrench 2.5mm	Wrench 3mm	Wrench 4mm	Wrench 5mm	Wrench 6mm	Wrench 8mm	Wrench 10mm	Wrench 12mm	Wrench 14mm
6	794									
8	937	509	753	582						
10	1007	509	495	587						
12	1080	513	540	571	765					
14			561	624						
16	1224	580	580	642	744	1244				
18		590	587	665	753					
20	1368	598	593	686	798	1069				
25	1513	733	697	782	915	1241	2266			
30		886	886	900	1047	1422	2595	4877		
35		1839	1180	1022	1190	1635	2790	5256		
40		1968	1839	1203	1395	1874	3009	5477	11102	
45		2213	2070	2142	1567	2109	3406	6181	11910	
50		2459	2298	2679	2455	2380	3715	6210	12697	20524
55				2946	2931	2931	4238	7117	13476	22245
60					3197	3197	4568	7510	14251	23964
65						3464	5195	7903	15059	25684
70						3730	5594	8297	15867	27404
75						4796	5995	10224	17248	29124
80						5115	6939	10686	19760	30843
90						5755		11680	20539	34284
100								13808	25495	38984
110									28189	43685
120									30880	48387
130									33259	53088
Qty. per Box	200					100	50	25	10	5

1. Specifications : Generally conforming to IS : 6761, DIN 7991
2. Threads : ISO Metric, 4g6g as per IS:4218
3. Material : UNBRAKO High Grade Alloy Steel.
4. Mechanical Properties : Property Class 12.9 as per IS:1367, ISO:898 Part-1
5. Plating : No guarantee can be given for UNBRAKO products which have been plated by the user and / or outside plates, who may not have considered hydrogen embrittlement problem.

For sizes M6 and above - if the order quantity is less than one carton then 3% extra packing charges will be applicable.
Brochure with carton quantity information available separately



SOCKET SET SCREWS (GRUB SCREWS)





METRIC SERIES
M3 TO M20

Recommended Consumer Net Prices in Rupees Per 100 Pieces
Exclusive of Excise Duty, CESS, Freight & Octroi and Other Taxes

Diameter (mm)	M3	M4	M5	M6	M8	M10	M12	(M16)	(M20)
	Wrench 1.5mm	Wrench 2mm	Wrench 2.5mm	Wrench 3mm	Wrench 4mm	Wrench 5mm	Wrench 6mm	Wrench 8mm	Wrench 10mm
3	316								
4	320	262							
5	324	262	182						
6	312	265	185	193	381				
8	317	284	185	210	233	425			
10	334	289	201	236	243	330			
12	355	320	243	271	294	384	650		
16	467	436	282	347	358	513	545	1486	
20	491	530	346	375	464	632	652	1496	4892
25		574	379	484	574	765	827	2027	5459
30		1046	529	639	671	1102	1135	2400	6311
35		1392	822	980	898	1273	1311	3001	7195
40		1790	1028	1108	1063	1412	1780	3480	8045
45				1179	1162	1617	1975	3854	8932
50				1387	1330	1875	2193	4625	9771
55					2298	3101	2394	5870	11554
60					2508	3458	4134	6281	12277
65					2903	3609	4643	7440	13836
70							5791	9470	14605
75							6238	10617	15879
80								11326	
Qty. Per Box			200			100		50	

1. Specifications : As per Unbrako specifications (please refer to Unbrako Designer's Manual)
2. Threads : ISO Metric, 4g6g as per IS:4218, ISO 261, ISO 965.
3. Material : UNBRAKO High Grade Alloy Steel.
4. Mechanical Properties : Property Class 45H as per IS : 1367, ISO: 898 Part V.
5. NOTE : PRICES FOR SPECIAL POINTS SHOWN BELOW WILL BE 25% EXTRA.
6. Plating : No guarantee can be given for DFL products which have been plated by the users and / or outside plates, who may not have considered hydrogen embrittlement problem.

Orders for sizes with special points will be accepted subject to our confirmation.

				
	FLAT	CONE	DOG	PLAIN CUP
IS	6094	6094	6094	6094
DIN	913	914	915	916

SOCKET SET SCREWS (GRUB SCREWS)

INCH SERIES
BSW

Recommended Consumer Net Prices in Rupees Per 100 Pieces
Exclusive of Excise Duty, CESS, Freight & Octroi and Other Taxes

Diameter (Inch) \ Length (Inch)	3/16	1/4	5/16	3/8	1/2	5/8	3/4
	Wrench 3/32"	Wrench 1/8"	Wrench 5/32"	Wrench 3/16"	Wrench 1/4"	Wrench 5/16"	Wrench 3/8"
3/16	191						
1/4	185	220					
5/16	195	233	233				
3/8	201	243	243	285			
1/2	232	248	253	384	649		
5/8	261	322	313	454	728	1719	
3/4	320	490	410	560	919	1771	3925
1	453	477	574	684	1135	2045	4726
1 1/4		555	678	984	1584	2656	5822
1 1/2		939	1376	1745	3677	4982	8097
1 3/4		1189	1470	2107	4789	6719	9533
2		1257	1740	2488	5238	6109	11215
2 1/2					6596	8902	13729
3					8087	10806	16539
Qty. Per Box	200					50	

1. Specifications : As per Unbrako specifications (Please refer to Unbrako Designer's Manual).
2. Threads : BS Whitworth Medium as per BS : 84
3. Material : UNBRAKO High Grade Alloy Steel
4. Mechanical Properties : As per BS : 2470
5. NOTE : PRICES FOR SPECIAL POINTS 25 % EXTRA.
6. Socket set screws with BSF/UNC/UNF threads can also be manufactured subject to MOQ. Price on request.
7. Plating : No guarantee can be given for UNBRAKO products which have been plated by the users and / or outside plates, who may not have considered hydrogen embrittlement problem.

Orders for sizes with special points will be accepted subject to our confirmation.

FLAT



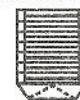
CONE



DOG



PLAIN CUP



For sizes M6 and above - if the order quantity is less than one carton then 3% extra packing charges will be applicable.
Brochure with carton quantity information available separately.



NYLOCK NUT & WASHERS

NYLOCK NUT (DIN 982 ISO 7040 Grade-10 Blue Rings) (Duly Mechanical White Zinc Plated)

Size (mm)	Price
M10	773
M12	1116

Size (mm)	Price
M16	2308
M16x1.5	2401

Size (mm)	Price
M20	4339
M24	9656

NYLOCK NUT (DIN 985, ISO 10511 Grade-8) Blue Ring (Duly Mechanical White Zinc Plated)

Size (mm)	Price
M6	117
M8	232
M10	505
M12	739

Size (mm)	Price
M12x1.5	793
M14	1214
M16	1634
M16x1.5	1673

Size (mm)	Price
M20	3526
M20x1.5	3773

NYLOCK NUT (DIN 985, ISO 10511 Grade-10) Blue Ring (Duly Mechanical White Zinc Plated)

Size (mm)	Price
M10	597
M12	882

Size (mm)	Price
M16	1881
M16x1.5	1944

Size (mm)	Price
M20	3745
M24	7614

Spring Washer - Square Section

Size (mm)	Price
3MM	12
4MM	15
5MM	18
6MM	20
8MM	34

Size (mm)	Price
10MM	59
12MM	70
14MM	117
16MM	176
18MM	194

Size (mm)	Price
20MM	359
22MM	402
24MM	535
27MM	613
30MM	948

Size (mm)	Price
33MM	1116
36MM	1623
39MM	1756

Spring Washer - Fiat Section

Size (mm)	Price
3MM	12
4MM	14
5MM	19
6MM	33
8MM	53

Size (mm)	Price
10MM	77
12MM	115
14MM	178
16MM	269
18MM	312

Size (mm)	Price
20MM	446
22MM	506
24MM	755
27MM	841
30MM	1359

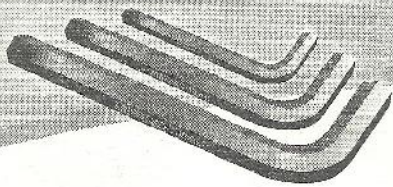
Size (mm)	Price
33MM	2173
36MM	2276
39MM	2389

Unbrako Hardened Washer For 10.9 Bolts

Size (mm)	Price
M12	431
M16	754

Size (mm)	Price
M20	1143
M22	1269

Size (mm)	Price
M24	1612
M27	2704
M30	3380

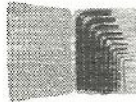



HEXAGON WRENCHES SETS

METRIC &
INCH SERIES

Recommended Consumer Net Prices in Rupees Per 100 Pieces
Exclusive of Excise Duty, CESS, Freight & Octroi and Other Taxes

DIMENSIONS ACROSS FLATS (Inch)	NET PRICE PER 100 PIECES	QUANTITY PER BOX	DIMENSIONS ACROSS FLATS (MM)	NET PRICE PER 100 PIECES	QUANTITY PER BOX
1/16	1065	100	1.5	1065	100
5/64	1174	100	2	1065	100
3/32	1174	100	2.5	1065	100
1/8	1174	100	3	1174	100
5/32	1391	100	4	1843	100
3/16	1801	100	5	2248	100
7/32	2449	50	6	3200	50
1/4	3548	50	8	6027	50
5/16	5894	25	10	10058	25
3/8	8719	25	12	18922	25
1/2	20116	10	14	27832	25
9/16	25738	10	17	44018	10
5/8	37582	10	19	60743	10
3/4	60772	10	22	95739	5
			24	128723	5
			27	216706	2
			32	381102	2

SETS		Price/Set	Price/Set	Pcs/Carton
Standard (Metric)		1.5mm, 2mm, 2.5mm, 3 mm, 4 mm, 5mm, 6mm, 8mm, 10mm, Set of 9	330	50
Standard (Inch)		1/16", 5/64", 3/32", 1/8", 5/32", 3/16" 7/32", 1/4", 5/16", 3/8" Set of 10	347	50

1. Specifications :

a. Inch Series :BS :2470

b. Metric Series : IS :3082 , DIN 911

2. Material : UNBRAKO High Grade Alloy Steel

3. Mechanical Properties : Hardness : Hrc 47 (Min).

4. Plating : No guarantee can be given for UNBRAKO products which have been plated by the users and / or outside plates, who may not have considered hydrogen embrittlement problem.

For sizes M6 and above - if the order quantity is less than one carton then 3% extra packing charges will be applicable.
Brochure with carton quantity information available separately.

HEX HEAD BOLTS/SCREWS

METRIC SERIES
M4 TO M20

Recommended Consumer Net Prices in Rupees Per 100 Pieces
Exclusive of Excise Duty, CESS, Freight & Octroi and Other Taxes

Diameter Length (mm)	M4	M5	M6	M8	M10	M12	(M14)	M16	(M18)	M20
10	253	268	347							
12	262	272	366	529						
16	430	429	379	536	905					
18	430	440	384	483	899					
20	372	354	379	483	849	1393		3150		
22	378	377	390	547	934			3150		
25	378	372	392	530	917	1513	2406	3173		
30	377	401	410	593	990	1502	2593	3477		
35	387	406	439	695	1041	1585	2697	3477		6915
40	411	430	461	737	1264	1805	2885	3441	6178	6915
45	463	470	490	797	1466	2002	3115	3649	6439	7244
50	514	565	524	867	1502	2141	3453	3920	6638	7192
55	565	595	576	950	1564	2296	3530	4357	7092	8168
60	617	649	630	1072	1717	2394	3688	4596	7314	8283
65		737	683	1107	1810	2503	3891	4713	7561	8548
70		795	736	1194	1903	2830	4127	5029	8259	8484
75		852	742	1232	2034	2932	4328	5393	8741	9413
80			782	1277	2341	3110	4582	6190	8758	9691
90			881	1650	2595	3350	5020	6613	9304	10298
100			979	1988	2983	3914	5777	6864	10308	10967
110			1507	2802	3444	4275	6280	7614	10867	12344
120			1638	3091	3749	4530	6973	8698	11992	13140
130			1765	3383	4211	4789	7548	10228	12539	14298
140			1894	3744	4672	5682	9774	10368	13087	15258
150			2023	3983	5006	7592	10788	11800	14014	14996
160				4212	5337	7959	12047	12816	15092	17854
180				4680	6005	8652	12924	14414	16743	20904
200				5127	6673	11434	14360	15603	18090	22528
220						16442		20168	19898	31255
240						16848		21705	21709	32822
260						17210		22144	23519	34391
280						18794		24447	25328	37518
300						20136		31425	27137	40629
Qty. Per Box	500	200	100	50	25		10			

1. Specifications : Generally conforming to IS : 1364, ISO : 4014, DIN 931/933.
2. Threads : ISO Metric 6g. As per IS:4218.
3. Material and Mechanical Properties : Property Class 10.9 as per IS: 1367.
4. NOTE : Shaded sizes are fully threaded : Prices for fully threaded screws beyond shaded sizes will cost 10% extra.
5. Orders for Property class 8.8 can be accepted subject to our confirmation on the basis of itemwise quantities.
6. Upto 80MM Dia can be manufactured against request.
7. Plating : No guarantee can be given for UNBRAKO products which have been plated by the uses and / or outside plated, who may not have considered hydrogen embrittlement problem.

For sizes M6 and above - if the order quantity is less than one carton then 3% extra packing charges will be applicable.
Brochure with carton quantity information available separately.

HEX HEAD BOLTS/SCREWS

METRIC SERIES
M22 TO M42

Recommended Consumer Net Prices in Rupees Per 100 Pieces
Exclusive of Excise Duty, CESS, Freight & Octroi and Other Taxes

Diameter (mm) Length (mm)	(M22)	M24	(M27)*	M30*	(M33)*	M36*	M42*	
45								
50	10254	12927	25914	34350				
55	11043	12370	25914	34350				
60	11405	13458	25914	34350				
65	12213	13926	25914	34350				
70	12637	14762	25914	34350				
75	13072	15293	27868	34350	47152			
80	13603	16722	29162	35747	49857	59646		
90	14489	17857	31749	38803	52884	64188	94128	
100	15454	19314	34350	41758	56633	66774	99537	
110	16823	20187	37041	45933	60895	71316	104977	
120	17982	21186	37980	46948	62350	72698	105785	
130	18948	22344	39230	49062	65702	76506	110252	
140	19896	23407	41714	52105	69774	80870	116388	
150	20831	24550	44198	55031	73771	85206	122510	
160	23762	29316	48813	62262	77210	93628	128640	
170		30594	51407	65405				
180	25806	31874	54002	68568	84545	108576	140325	
190		33130						
200	27881	34386	58822	74800	91967	117690	146674	
220	42826	49296	81062	90248	111224	141105	188138	
240	46391	51063	87410	96598	119424	151268	202102	
260	48174	52830	93143	102961	128376	161418	216109	
280	53544	58101	98861	109311	137282	171589	230089	
300	57370	71028	103499	115647	146176	205981	244059	
	10	5			2			

1. Specifications : Generally conforming to IS : 1364, ISO :4014, DIN 931/933.

2. Threads : ISO Metric 6g. As per IS:4218

3. Material and Mechanical Properties : Property Class 10.9 as per IS: 1367.

4. NOTE : Shaded sizes are fully threaded : Prices Sizes in brackets are non-preferred standards.

5. Orders for Property class 8.8 can be accepted subject to our confirmation on the basis of itemwise quantities.

6. Upto 80MM Dia can be manufactured against request.

7. Plating : No guarantee can be given for DFL products which have been plated by the users and / or outside plated, who may not have considered hydrogen embrittlement problem.

**IMPORTANT * LONG DELIVERY ITEMS - SUBJECT TO EXTENDED DELIVERIES (3 TO 4 MONTHS).
USERS ARE ADVISED TO PLAN THEIR REQUIREMENTS IN ADVANCE.**

For sizes M6 and above - if the order quantity is less than one carton then 3% extra packing charges will be applicable.
Brochure with carton quantity information available separately.

Unbrako

THE WORLD LEADER

HEX HEAD BOLTS/SCREWS

INCH SERIES
UNC 1/4" TO 1"

Recommended Consumer Net Prices in Rupees Per 100 Pieces

Exclusive of Excise Duty, CESS, Freight & Octroi and Other Taxes

Diameter (Inch) \ Length (Inch)	1/4	5/16	3/8	1/2	5/8	3/4	7/8	1
1/2	415	553	891					
5/8	515	530	891					
3/4	468	510	777	1673				
7/8	422	558	938	1660				
1	461	555	766	1763	3080			
1 1/4	472	611	856	1966	3438			
1 1/2	522	744	967	2098	3607	6330		13830
1 3/4	572	834	1129	2256	3848	6570		13830
2	628	888	1239	2455	4042	7000	16551	14537
2 1/4	690	977	1358	2711	4401	7688	16551	15101
2 1/2	768	1072	1490	2887	4816	8065	13345	15793
2 3/4	844	1159	1660	3125	5205	8798	13345	16839
3	922	1220	1759	3506	5610	9144	13981	18443
3 1/4	1063	1301	1945	3760	5974	9545	15419	19157
3 1/2	1075	1402	1999	3889	6328	10318	15419	19963
3 3/4	1147	1731	2450	4092	6999	11075	16542	21974
4	1230	1912	2634	4263	7184	11588	17331	21974
4 1/4			2929	4527	7435	11873	18373	24228
4 1/2		2151	3100	4932	7712	12422	19248	24228
5		2390	3444	5387	8681	13214	20711	27034
5 1/2			3789	6577	9987	14839	21819	29219
6			4133	7985	10469	15234	23159	30571
6 1/2				9809	12214	16462	24440	33153
7				11997	13154	16462	26978	35733
7 1/2				12858	14093	17688	28373	38234
8				13714	14350	19382	29624	40004
9						20263	33661	44989
10						22797	35220	49333
11						24230		51801
12								56509
Qty. Per Box	500	200	100	25		10		5

1. Specifications : Generally conforming to ANSI B 18.2.1

2. Threads : Unified Coarse, 2A As per ANSI B1.1

3. Material & Mechanical Properties : Grade 8 as SAE J 429

4. Note : Non-shaded sizes if required in full thread will cost 10% extra. BSF threading will cost 15% extra.

5. Grey Highlighted items are full threaded.

6. Plating : No guarantee can be given for UNBRAKO products which have been plated by the users and / or outside plates, who may not have considered hydrogen embrittlement problem.

For sizes M6 and above - if the order quantity is less than one carton then 3% extra packing charges will be applicable.

Brochure with carton quantity information available separately.

In Fasteners Engineering You name it - We have it.

HEX HEAD BOLTS/SCREWS

INCH SERIES UNC/
1-1/8" TO 2"

Recommended Consumer Net Prices in Rupees Per 100 Pieces
Exclusive of Excise Duty, CESS, Freight & Octroi and Other Taxes

Length (Inch) \ Diameter (Inch)	1-1/8	1-1/4	1-3/8	1-1/2	1-3/4	2
1/2						
5/8						
3/4						
7/8						
1	15534					
1 1/4	16847					
1 1/2	18384					
1 3/4	19007					
2	20467					
2 1/4	21936					
2 1/2	23189	30710	37186	46791	75568	105794
2 3/4	24440	32169	38854	49089	78768	110140
3	25900	33629	40736	51393	81978	114266
3 1/4	27368	35512	43033	53476	85413	118612
3 1/2	28619	37186	45124	56195	88613	122966
3 3/4	30079	39062	47421	58701	92049	127320
4	31539	40736	49510	61419	95948	131666
4 1/4	33006	42404	51808	63925	99839	136021
4 1/2	34467	44286	53898	66643	103730	141056
5	37186	47836	58286	71861	111520	151365
5 1/2	40107	51178	62672	77086	119303	161437
6	42826	54735	67060	82311	127093	171745
7	48466	61627	75627	92337	142201	191207
7 1/2	51178	64970	80014	97561	149756	201516
8	54105	68519	84401	102785	157772	211815
9	75627	75627	93174	113228	173345	231968
10	65385	82517	101949	123677	188917	252576
Qty. Per Box	2 to 5 Pcs.					

1. Specifications : Generally conforming to ANSI B 18.2.1 for BSF BS:1083

2. Threads : Unified Coarse, 2A As per ANSI B1.1. For BSF BS: 84

3. Material & Mechanical Properties : Grade 8 as per SAE J 429 for BSF BS: 1083

4. Note : Non-shaded sizes if required in full thread will cost 10% extra. BSF threading will cost 15% extra.

Upto 80MM Dia can be manufactured against request.

5. Plating : No guarantee can be given for UNBRAKO products which have been plated by the users and / or outside plates, who may not have considered hydrogen embrittlement problem.

For sizes M6 and above - if the order quantity is less than one carton then 3% extra packing charges will be applicable.
Brochure with carton quantity information available separately.

HEX NUTS

METRIC SERIES

Recommended Consumer Net Prices in Rupees Per 100 Pieces
Exclusive of Excise Duty, CESS, Freight & Octroi and Other Taxes

SIZE (mm)	PROPERTY CLASS	PRICE	Pcs. Per Box	Pcs. Per Carton
M4 x 0.7	8	0.80	1000	18000
M5 x 0.8	8	1.00	700	12600
M6 x 1	8	1.35	500	9000
M8 x 1.25	8	1.84	200	2400
M10 x 1.5	8	3.56	200	2400
M12 x 1.75	8	5.80	200	1600
(M12) x 1.5	10	9.17	200	2400
M12 x 1.75	10	9.17	200	2400
(M14) x 1.5	10	10.64	100	800
(M14) x 2	10	10.64	100	800
M16 x 2	8	11.55	100	800
M16 x 2	10	13.93	100	800
(M18) x 1.5	10	20.92	100	600
(M18) x 2.5	10	20.92	100	600
M20 x 1.5	10	26.78	50	300
M20 x 2.5	10	26.78	50	300
(M22) x 2.5	10	30.77	50	200
M24 x 3	10	46.03	50	200
(M27) x 3	10	74.33	25	150
M30 x 3.5	10	107.03	25	150
(M33) x 3.5	10	147.24	10	80
M36 x 4	10	190.07	10	80
M39 x 4	10	259.25	10	40
M42 x 4.5	10	318.44	10	40
M45 x 4.5	10	380.43	10	40
M48 x 5	10	458.33	10	40
M52 x 5	10	542.65	4	16
M56 x 6	10	701.41	4	16
M60 x 5	10	1315.12	3	12
M64 x 6	10	1402.80	3	12
M72 x 6	10	2511.60	2	8

1. Specifications : For Nuts with Metric Threads IS:1364, ISO 4032

2. Threads : ISO Metric 6H as per IS:4218, ISO 261, ISO 965

3. Material & Mechanical Properties : Property Class as tabulated as per IS:1367, ISO 898, Part-II

4. Note : Size in brackets are non-preferred standards.

5. Plating : No guarantee can be given for UNBRAKO products which have been plated by the users and / or outside plates, who may not have considered hydrogen embrittlement problem.

For sizes M6 and above - if the order quantity is less than one carton then 3% extra packing charges will be applicable.
Brochure with carton quantity information available separately.

HEX NUTS

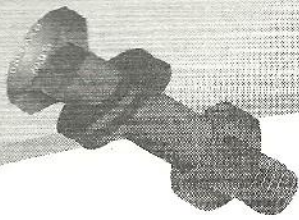
METRIC SERIES

Recommended Consumer Net Prices in Rupees Per 100 Pieces
Exclusive of Excise Duty, CESS, Freight & Octroi and Other Taxes

SIZE (Inch)	PROPERTY CLASS/GRADE	PRICE	Pcs. Per Box	Pcs. Per Carton
1/4	8	148	500	9000
5/16	8	204	500	9000
3/8	8	293	200	2400
7/16	8	670	200	1600
1/2	8	670	200	1600
5/8	8	1393	200	1600
3/4	8	2455	50	400
7/8	8	3309	50	200
1	8	5200	50	200
1-1/8	8	7344	25	150
1-1/4	8	10417	25	100
1-3/8	8	13305	25	100
1-1/2	8	18094	10	40

1. Specifications : For Nuts with UNC Threads (ANSI B 18.2.2)
2. Threads : Unified Coarse, 2B As per NASI B1.1.
3. Material & Mechanical Properties : Grades as tabulated as per SAE J 995
4. Plating : No guarantee can be given for UNBRAKO products which have been plated by the users and / or outside plates, who may not have considered hydrogen embrittlement problem.

For sizes 1/4 and above - if the order quantity is less than one carton then 3% extra packing charges will be applicable.



HIGH STRENGTH STRUCTURAL BOLTS (METRIC)

METRIC SERIES
M16 TO M30

Recommended Consumer Net Prices in Rupees Per 100 Pieces
Exclusive of Excise Duty, CESS, Freight & Octroi and Other Taxes

Length (mm) \ Diameter (mm)	M16	M20	(M22)	M24	(M27)	M30
	BOLT	BOLT	BOLT	BOLT	BOLT	BOLT
40	4068	7519				
45	4431	8091				
50	4662	8461	11474			
55	4814	8836	11801	14944		
60	5134	9443	12284	15472	31505	
65	5415	9858	13408	16758	32978	
70	5722	10211	14046	17016	32755	
75	6125	10600	14484	18509	35005	42280
80	6726	10900	14994	18867	36578	43778
90	7053	11585	16485	20847	38862	44987
100	7651	12253	16859	22392	41723	48242
110	8263	12728	18199	22940	43439	52515
120	9112	13806	19403	23839	44648	53534
130	10462	14847	20486	24874	45926	56106
140	10629	15306	21423	25942	48688	59431
150	12603	16131	22464	27114	51420	62637
160	13640	19214	25490	30810	56635	70731
170	14484	20027	26560	33394	62500	77755
180	15329	20844	27626	34902	62362	77630
200	17290	23376	29697	37498	67677	84453
220						91278
240						98102
260						104927
280						
300						
Qty. Per Box*	10			5		

HIGH STRENGTH STRUCTURAL NUTS (METRIC)

Item \ Diameter	M16	M20	(M22)	M24	(M27)	M30
HSS NUTS	1988	4026	4700	6745	10912	13811
Qty. Per Box	100	50	50	50	25	25

HARDENED & TEMPERED WASHERS (TYPE A)* (METRIC)

Item \ Diameter	M16	M20	(M22)	M24	(M27)	M30
HSS WASHER	1259	1576	2243	2372	3813	4744
Qty. Per Box	200	100	100	100	100	100

- Specifications : Bolts : IS : 3757 , Nuts : IS 6623 , Washers : IS : 6649.
- Threads : Bolts : ISO Metric, 6g as per IS:4218. : Nuts : ISO Metric, 6H as per IS:4218.
- Material and Mechanical Properties :
: Bolts : Property Class 8.8 as per IS : 1367. Nuts : Property Class 8 as per IS : 1367. : Washers : Hardness : HRc 38-45 as per IS : 6649.
- Note : The above prices are for bolts of Property Class 10.9 and nuts of Property Class 10.
- Plating : No guarantee can be given for UNBRAKO products which have been plated by the users and / or outside plates, who may not have considered hydrogen embrittlement problem.

For sizes M6 and above - if the order quantity is less than one carton then 3% extra packing charges will be applicable.
Brochure with carton quantity information available separately.

HOW TO IDENTIFY UNBRAKO PRODUCTS

PRODUCTS	METRIC SERIES	PRODUCTS	INCH SERIES
Socket Head Screw M3 to M5		Socket Head Cap Screw 1/8" to 3/16"	
Socket Head Cap Screw M6 to M24		Socket Head Cap Screw 3/16" to 3/8"	
Socket Head Cap Screw M27 to M42		Socket Head Cap Screw 1/2" to 1"	
Socket Counter Sunk Cap Screw M3 to M16		Socket Counter Sunk Cap Screw 1/4" to 5/6"	
Socket Set Screw 1.5 A/F		Socket Set Screw 1.8" to 3/4" (1/8 to 3/4")	
Hexagon Wrenches 1.5 A/F to 3 A/F		Hexagon Wrenches 1/16" A/F to 1/8"	
Hexagon Wrenches 4 A/F to 32 A/F		Hexagon Wrenches 5/32" A/F to 3/4" A/F	
Hexagon Head Bolts M4 to M42		Hexagon Head Bolts All Sizes	
Hexagon Nuts M12 to M42		Hexagon Head Bolts All Sizes	
High Strength Structural Bolts M16 TO M30		Hexagon Nuts All Sizes	
High Strength Structural Nuts M16 TO M30			
Washers For High Strength Structural Bolts			
Special / Auto OEM Replacement Market Bolts & Nuts		Special / Auto OEM Replacement Market	
Hex Head Bolt/Screws M16 to M36 SS-304/316			
Stud With Two Nuts M12 to M56		Stud with Two Nuts 1/2 to 2-1/4	

According to stamping area on the Product Unbrako/U-130 Stamp will be used

NOTE:- "E" Marking on SHCS, is the internal coding it can be changed with any alphabetic