

**BOLTS WITH REDUCED HEAD
ACCURACY CLASS B
DESIGN AND DIMENSIONS**

GOST 7796-70

EXTRACT

CONTRACT

№ PB/835606213601

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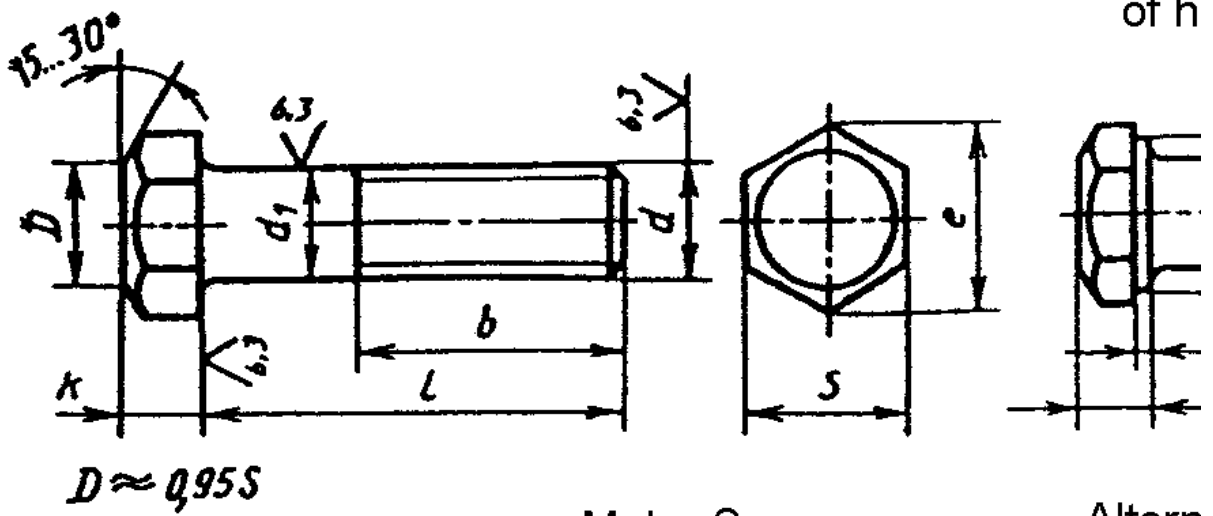
EXTRACT

Bolts with hexagonal reduced heads**GOST 7796-70****Accuracy class B****EXTRACT****Design and dimensions**

1. Present standard deals with bolts with hexagonal reduced heads of accuracy class B with thread diameter ranging from 8 to 48 mm.
2. Design and dimensions of bolts should correspond to specified on drawing and in table 1 and 2.
3. Threads are as per GOST 24705-81. Run out and under cut of thread – as per GOST 27148-86. Ends of bolts – as per GOST 12414-86.
4. Radius under the head – as per GOST 24670-81.
5. Tolerances for dimensions, deviation of shapes and location of surfaces and methods of checking, not established by present standard are as per GOST 1759.1-82.
6. Permissible surface defects of bolts and methods of checking are as per GOST 1759.2-82.
7. Bolts of make 1 and 2 with height of head equal to k_1 may be manufactured as per agreement between manufacturer and user.
8. Alternate make of heads is established by manufacturer.
9. Bolts, with diameter of smooth surface of rod d_1 approximately equal to mean diameter of threads, may be manufactured as per agreement between manufacturer and user.
10. Bolts of make 1 and 2 with rises on end face of surface of heads with dimensions, not reducing the strength of head may be manufactured for applying marking symbols, during this depth of rises should be not more than 0.4 k.
11. Technical requirements – as per GOST 1759.0-87.

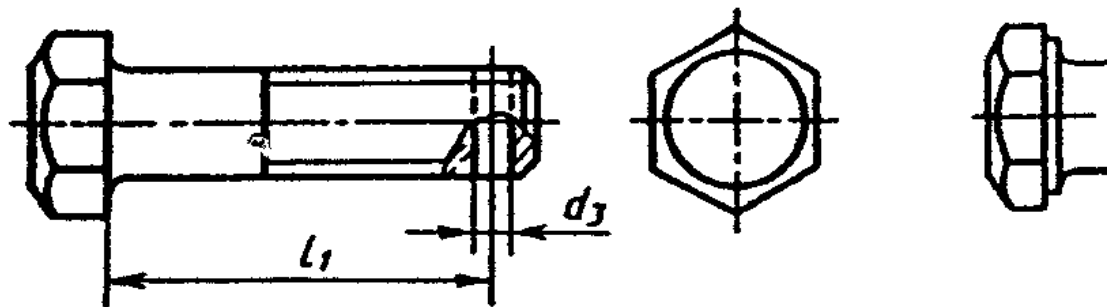
Make 1

Altern:
of h



Make 2

Altern
of h



Make 3

Alte
of



Table 1

mm

Nominal diameter of thread d		8	10	12	(14)
Thread pitch	Coarse	1.25	1.5	1.75	2
	fine	1	1.25	1.25	1.5
Diameter of rod d_1		8	10	12	14
Dimension <<for wrench>> S		12	14	17	19
Height of head k		5	6	7	8
Height of head k_1		5.3	6.4	7.5	8.8
Diameter of specified circumference, e, not less than		13.1	15.3	18.7	20.9
d_w , not less than		10.5	12.5	15.5	17.2
h_w	Not less than	0.15			
	Not more than	0.6			
Diameter of hole in rod, d_3		2.0	2.5	3.2	
Diameter of hole in head, d_4 (deviation limit H15)		2.5		3.2	
Distance between supporting surface and axis of hole in head l_2 (deviation limit js15)		2.8	3.5	4.0	4.5

Note: Dimensions of bolts, specified in brackets, are not recommended to use.

Table 1

mm

Nominal diameter of thread d	16	(18)	20	(22)	24	(27)	30	36	42	48	
Thread pitch	coarse	2	2.5	2.5	2.5	3	3	3.5	4	4.5	5
	fine	1.5	1.5	1.5	1.5	2	2	2	3	3	3
Diameter of rod, d ₁	16	18	20	22	24	27	30	36	42	48	
Dimension <<for wrench>> S	22	24	27	30	32	36	41	50	60	70	
Height of heads, k	9	10	11	12	13	15	17	20	23	26	
Height of head, k ₁	10.0	12.0	12.5	14.0	15.0	17.0	18.7	22.5	26.0	30.0	
Diameter of specified circumference, e, not less than	23.9	26.2	29.6	33.0	35.0	39.6	45.2	55.4	66.4	76.9	
d _w , not less than	20.1	22.0	24.8	27.7	29.5	33.2	38.0	46.6	55.9	64.7	
h _w	Not less than	0.20							0.25		
	Not more than	0.8									
Diameter of hole in rod d ₃	4.0			5.0			6.3		8.0		
Diameter of hole in head d ₄ (deviation limit H15)	4.0							5.0			
Distance between supporting surface and axis of hole in head l ₂ (deviation limit js15)	5.0	6.0	6.5	7.0	7.5	8.5	9.5	11.5	13.0	15.0	

Note: Dimensions of bolts, specified in brackets, are not recommended to use.

Table 1

Dimensions in mm

Length of bolt, l	Length of thread b and distance from supporting surface of heads to axis of hole in rod l_1 when nominal diameter of thread d (bolts with thread along the entire length of rod, are marked with symbol X)											
	8		10		12		(14)		16		(18)	
	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b
8	-	X	-	-	-	-	-	-	-	-	-	-
10	-	X	-	X	-	-	-	-	-	-	-	-
12	-	X	-	X	-	-	-	-	-	-	-	-
14	-	X	-	X	-	X	-	-	-	-	-	-
16	12	X	-	X	-	X	-	X	-	-	-	-
(18)	14	X	14	X	-	X	-	X	-	X	-	-
20	16	X	16	X	15	X	-	X	-	X	-	-
(22)	18	X	18	X	17	X	17	X	-	X	-	-
25	21	X	21	X	20	X	20	X	19	X	-	X
(28)	24	22	24	X	23	X	23	X	22	X	22	X
30	26	22	26	X	25	X	25	X	24	X	24	X
(32)	28	22	28	26	27	X	27	X	26	X	26	X
35	31	22	31	26	30	30	30	X	29	X	29	X
(38)	34	22	34	26	33	30	33	X	32	X	32	X
40	36	22	36	26	35	30	35	34	34	X	34	X
45	41	22	41	26	40	30	40	34	39	38	39	X
50	46	22	46	26	45	30	45	34	44	38	44	42
55	51	22	51	26	50	30	50	34	49	38	49	42
60	56	22	56	26	55	30	55	34	54	38	54	42
65	61	22	61	26	60	30	60	34	59	38	59	42
70	66	22	66	26	65	30	65	34	64	38	64	42
75	71	22	71	26	70	30	70	34	69	38	69	42
80	76	22	76	26	75	30	75	34	74	38	74	42
(85)	81	22	81	26	80	30	80	34	79	38	79	42
90	86	22	86	26	85	30	85	34	84	38	84	42
(95)	91	22	91	26	90	30	90	34	89	38	89	42
100	96	22	96	26	95	30	95	34	94	38	94	42
(105)	-	-	101	26	100	30	100	34	99	38	99	42
110	-	-	106	26	105	30	105	34	104	38	104	42
(115)	-	-	111	26	110	30	110	34	109	38	109	42
120	-	-	116	26	115	30	115	34	114	38	114	42

Table 1

Dimensions in mm

Length of bolt, l	Length of thread b and distance from supporting surface of heads to axis of hole in rod l_1 when nominal diameter of thread d (bolts with thread along the entire length of rod, are marked with symbol X)															
	20		(22)		24		(27)		30		36		42		48	
	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(18)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(22)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(28)	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	24	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-
(32)	26	X	25	X	-	X	-	-	-	-	-	-	-	-	-	-
35	29	X	28	X	28	X	-	X	-	-	-	-	-	-	-	-
(38)	32	X	31	X	31	X	-	X	-	-	-	-	-	-	-	-
40	34	X	33	X	33	X	32	X	-	X	-	-	-	-	-	-
45	39	X	38	X	38	X	37	X	36	X	-	-	-	-	-	-
50	44	X	43	X	43	X	42	X	41	X	40	X	-	-	-	-
55	49	46	48	X	48	X	47	X	46	X	45	X	-	X	-	-
60	54	46	53	50	53	X	52	X	51	X	50	X	48	X	-	-
65	59	46	58	50	58	54	57	X	56	X	55	X	53	X	-	X
70	64	46	63	50	63	54	62	60	61	X	60	X	58	X	58	X
75	69	46	68	50	68	54	67	60	66	66	65	X	63	X	63	X
80	74	46	73	50	73	54	72	60	71	66	70	X	68	X	68	X
(85)	79	46	78	50	78	54	77	60	76	66	75	X	73	X	73	X
90	84	46	83	50	83	54	82	60	81	66	80	78	78	X	78	X
(95)	89	46	88	50	88	54	87	60	86	66	85	78	83	X	83	X
100	94	46	93	50	93	54	92	60	91	66	90	78	88	X	88	X
(105)	99	46	98	50	98	54	97	60	96	66	95	78	93	90	93	X
110	104	46	103	50	103	54	102	60	101	66	100	78	98	90	98	X
(115)	109	46	108	50	108	54	107	60	106	66	105	78	103	90	103	102
120	114	46	113	50	113	54	112	60	111	66	110	78	108	90	108	102

Table 1

Dimensions in mm

Length of bolt, l	Length of thread b and distance from supporting surface of heads to axis of hole in rod l_1 when nominal diameter of thread d (bolts with thread along the entire length of rod, are marked with symbol X)											
	8		10		12		(14)		16		(18)	
	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b
(125)	-	-	121	26	120	30	120	34	119	38	119	42
130	-	-	126	32	125	36	125	40	124	44	124	48
140	-	-	136	32	135	36	135	40	134	44	134	48
150	-	-	146	32	145	36	145	40	144	44	144	48
160	-	-	156	32	155	36	155	40	154	44	154	48
170	-	-	166	32	165	36	165	40	164	44	164	48
180	-	-	176	32	175	36	175	40	174	44	174	48
190	-	-	186	32	185	36	185	40	184	44	184	48
200	-	-	196	32	195	36	195	40	194	44	194	48
220	-	-	-	-	215	49	215	53	214	57	214	61
240	-	-	-	-	235	49	235	53	234	57	234	61
260	-	-	-	-	255	49	255	53	254	57	254	61
280	-	-	-	-	-	-	275	53	274	57	274	61
300	-	-	-	-	-	-	295	53	294	57	294	61

Note:

1. Bolts with dimensions of length, specified in brackets, are not recommended to use.
2. Bolts, for which value b is located above the thick line, may be manufactured with thread length as per head.

Table 1

Dimensions in mm

Length of bolt, l	Length of thread b and distance from supporting surface of heads to axis of hole in rod l_1 when nominal diameter of thread d (bolts with thread along the entire length of rod, are marked with symbol X)															
	20		(22)		24		(27)		30		36		42		48	
	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b
(125)	119	46	118	50	118	54	117	60	116	66	115	78	113	90	113	102
130	124	52	123	56	123	60	122	66	121	72	120	84	118	96	118	108
140	134	52	133	56	133	60	132	66	131	72	130	84	128	96	128	108
150	144	52	143	56	143	60	142	66	141	72	140	84	138	96	138	108
160	154	52	153	56	153	60	152	66	151	72	150	84	148	96	148	108
170	164	52	163	56	163	60	162	66	161	72	160	84	158	96	158	108
180	174	52	173	56	173	60	172	66	171	72	170	84	168	96	168	108
190	184	52	183	56	183	60	182	66	181	72	180	84	178	96	178	108
200	194	52	193	56	193	60	192	66	191	72	190	84	188	96	188	108
220	214	65	213	69	213	73	212	79	211	85	210	97	208	109	208	121
240	234	65	233	69	233	73	232	79	231	85	230	97	228	109	228	121
260	254	65	253	69	253	73	252	79	251	85	250	97	248	109	248	121
280	274	65	273	69	273	73	272	79	271	85	270	97	268	109	268	121
300	294	65	293	69	293	73	292	79	291	85	290	97	288	109	288	121

Note:

1. Bolts with dimensions of length, specified in brackets, are not recommended to use.
2. Bolts, for which value b is located above the thick line, may be manufactured with thread length as per head.

Example of conventional designation of bolts of make 1, with thread diameter $d=12$ mm, length $l=60$ mm, with large thread pitch with tolerance 6g, strength class 5.8 without coatings:

Bolt M12-6gX60.58 GOST 7796-70

Also, make 2, with small thread pitch with tolerance 6g, strength class 10.9, made of steel of grade 40X, with coating 01 with thickness 6 microns.

Bolt 2M12X1.25-6gX60.109.40X.016 GOST 7796-70