

# Dimensions of countersunk HRC Bolts to EN 14399-10

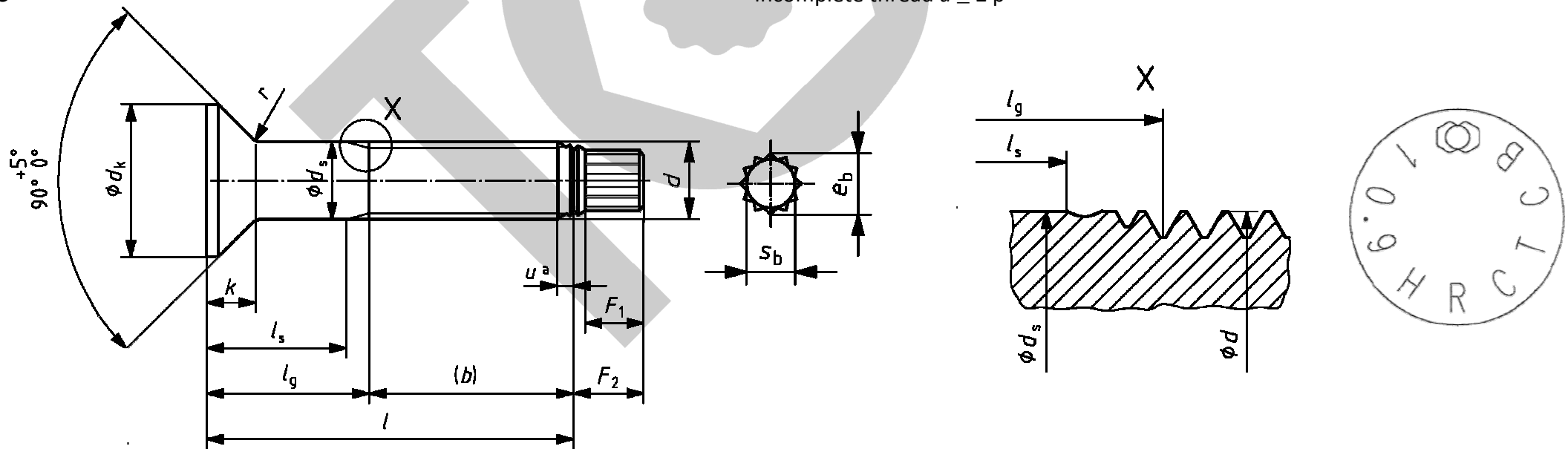
**\*\*please enquire regarding available stock\*\***

All dimensions in millimetres

Thread $d$		M12	M16	M20	M22	M24	M27	M30	M36
$p$		1,75	2,0	2,5	2,5	3,0	3,0	3,5	4,0
Thread length ( $b$ )	$\leq 125\text{mm}$	30	38	46	50	54	60	66	78
	$> 125 \leq 200\text{mm}$	-	44	52	56	60	66	72	84
	$> 200\text{mm}$	-	-	65	69	73	79	85	97
Shank $\phi$ ( $d_s$ )	max	12.7	16.7	20.84	22.84	24.84	27.84	30.84	37.00
	min	11.3	15.3	19.16	21.16	23.16	26.16	29.16	35.00
Head $\phi$ ( $d_k$ )	max	24.0	32.0	40.0	44.0	48.0	54.0	60.0	72.0
	min	23.16	31.16	39.0	43.0	47.0	53.0	58.8	70.8
Head depth ( $k$ )	nom	8.00	10.00	13.0	14.0	16.0	17.5	19.50	23.00
	max	8.75	10.75	13.9	14.9	16.9	18.4	20.55	24.05
	min	7.25	9.25	12.1	13.1	15.1	16.6	18.45	21.95
Radius under head ( $r$ )	max	1.6	1.6	2.0	2.0	2.0	2.5	2.5	2.5
	min	1.2	1.2	1.5	1.5	1.5	2.0	2.0	2.0
Spline length F1	min	11	13	15	15.5	16	19	21	25
Spline length F2	max	16	18	20	21	21.5	24	26	31
Spline a/f $S_b$	max	8.0	11.6	14.4	15.7	17.1	19.3	21.4	25.7
	min	7.4	11.0	13.8	15.1	16.5	18.7	20.8	25.1
Spline a/c $e_b$	min	8.36	12.43	15.60	17.06	18.65	21.13	23.50	28.50

$U^a$

Incomplete thread  $u \leq 2p$



Length (l)			M12		M16		M20		M22		M24		M27		M30		M36	
			<i>l<sub>s</sub></i>	<i>l<sub>g</sub></i>	<i>l<sub>s</sub></i>	<i>l<sub>g</sub></i>	<i>l<sub>s</sub></i>	<i>l<sub>g</sub></i>	<i>l<sub>s</sub></i>	<i>l<sub>g</sub></i>	<i>l<sub>s</sub></i>	<i>l<sub>g</sub></i>	<i>l<sub>s</sub></i>	<i>l<sub>g</sub></i>	<i>l<sub>s</sub></i>	<i>l<sub>g</sub></i>	<i>l<sub>s</sub></i>	<i>l<sub>g</sub></i>
<i>nom</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>Max</i>
<b>40</b>	38.75	41.25	14	19.25														
<b>45</b>	43.75	46.25	14	19.25														
<b>50</b>	48.75	51.25	14	19.25	18	24												
<b>55</b>	53.50	56.5	16.25	25	18	24												
<b>60</b>	58.50	61.5	21.25	30	18	24	23	30.5										
<b>65</b>	63.50	66.5	26.25	35	18	24	23	30.5	25	32.5								
<b>70</b>	68.50	71.5	31.25	40	22	32	23	30.5	25	32.5	28	37						
<b>75</b>	73.50	76.5	36.25	45	27	37	23	30.5	25	32.5	28	37						
<b>80</b>	78.50	81.5	41.25	50	32	42	23	30.5	25	32.5	28	37	31	40				
<b>85</b>	83.25	86.75	46.25	55	37	47	26.5	39	25	32.5	28	37	31	40				
<b>90</b>	88.25	91.75	51.25	60	42	52	31.5	44	27.5	40	28	37	31	40	34.5	45		
<b>95</b>	93.25	96.75	56.25	65	47	57	36.5	49	32.5	45	28	37	31	40	34.5	45		
<b>100</b>	98.25	101.75	61.25	70	52	62	41.5	54	37.5	50	31	46	31	40	34.5	45		
<b>105</b>	103.25	106.75			57	67	46.5	59	42.5	55	36	51	31	40	34.5	45		
<b>110</b>	108.25	111.75			62	72	51.5	64	47.5	60	41	56	31	40	34.5	45	41	53
<b>115</b>	113.25	116.75			67	77	56.5	69	52.5	65	46	61	40	55	34.5	45	41	53
<b>120</b>	118.25	121.75			72	82	61.5	74	57.5	70	51	66	45	60	34.5	45	41	53
<b>125</b>	123.0	127.0			77	87	66.5	79	62.5	75	56	71	50	65	41.5	59	41	53
<b>130</b>	128.0	132.0			76	86	65.5	78	61.5	80	55	70	49	64	40.5	58	41	53
<b>135</b>	133.0	137.0			81	91	70.5	83	66.5	85	60	75	54	69	45.5	63	41	53
<b>140</b>	138.0	142.0			86	96	75.5	88	71.5	90	65	80	59	74	50.5	68	41	53
<b>145</b>	143.0	147.0			91	101	80.5	93	76.5	95	70	85	64	79	55.5	73	41	61

Length (l)			M12		M16		M20		M22		M24		M27		M30		M36	
			<i>l<sub>s</sub></i>	<i>l<sub>g</sub></i>	<i>l<sub>s</sub></i>	<i>l<sub>g</sub></i>	<i>l<sub>s</sub></i>	<i>l<sub>g</sub></i>	<i>l<sub>s</sub></i>	<i>l<sub>g</sub></i>	<i>l<sub>s</sub></i>	<i>l<sub>g</sub></i>	<i>l<sub>s</sub></i>	<i>l<sub>g</sub></i>	<i>l<sub>s</sub></i>	<i>l<sub>g</sub></i>	<i>l<sub>s</sub></i>	<i>l<sub>g</sub></i>
<i>nom</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>Min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>Min</i>	<i>max</i>	<i>min</i>	<i>Max</i>
<b>150</b>	148.0	152.0			96	106	85.5	98	81.5	100	75	90	69	84	60.5	78	46	66
<b>155</b>	153.0	157.0			101	111	90.5	103	86.5	105	80	95	74	89	65.5	83	51	71
<b>160</b>	156.0	164.0			106	116	95.5	108	91.5	110	85	100	79	94	70.5	88	56	76
<b>165</b>	161.0	169.0			111	121	100.5	113	96.5	115	90	105	84	99	75.5	93	61	81
<b>170</b>	166.0	174.0			116	126	105.5	118	101.5	120	95	110	89	104	80.5	98	66	86
<b>175</b>	171.0	179.0			121	131	110.5	123	106.5	125	100	115	94	109	85.5	103	71	91
<b>180</b>	176.0	184.0			126	136	115.5	128	111.5	130	105	120	99	114	90.5	108	76	96
<b>185</b>	181.0	189.0			131	141	120.5	133	116.5	135	110	125	104	119	95.5	113	81	101
<b>190</b>	186.0	194.0			136	146	125.5	138	121.5	140	115	130	109	124	100.5	118	86	106
<b>195</b>	191.0	199.0			141	151	130.5	143	126.5	145	120	135	114	129	105.5	123	91	111
<b>200</b>	196.0	204.0			146	156	135.5	148	131.5	150	125	140	119	134	110.5	128	96	116
<b>210</b>	206.0	214.0					132.5	145	128.5	141	122	137	116	131	107.5	125	93	113
<b>220</b>	216.0	224.0					142.5	155	138.5	151	132	147	126	141	117.5	135	103	123
<b>230</b>	226.0	234.0									142	157	136	151	127.5	145	113	133
<b>240</b>	236.0	244.0									152	167	146	161	137.5	155	123	143
<b>250</b>	246.0	254.0									162	177	156	171	147.5	165	133	153
<b>260</b>	256.0	264.0									172	187	166	181	157.5	175	143	163
<b>270</b>	266.0	274.0									182	197	176	191	167.5	185	153	173
<b>280</b>	276.0	284.0									192	207	186	201	177.5	195	163	183
<b>290</b>	286.0	294.0									202	217	196	211	187.5	200	173	193

$\alpha$   $l_{g \max} = l_{nom} - b$ ,  $l_{s \min} = l_{g \max} - 5p$  When  $l_{s \min}$  as calculated by the formula in  $\alpha$  is less than  $k_{nom} + 0,5d$  then its value shall be  $k_{nom} + 0,5d$  and  $l_{g \max} = l_{s \min} + 3p$ . Bolts with shortened thread length are shown above the stepped line

Current stock of countersunk TCBs are highlighted above