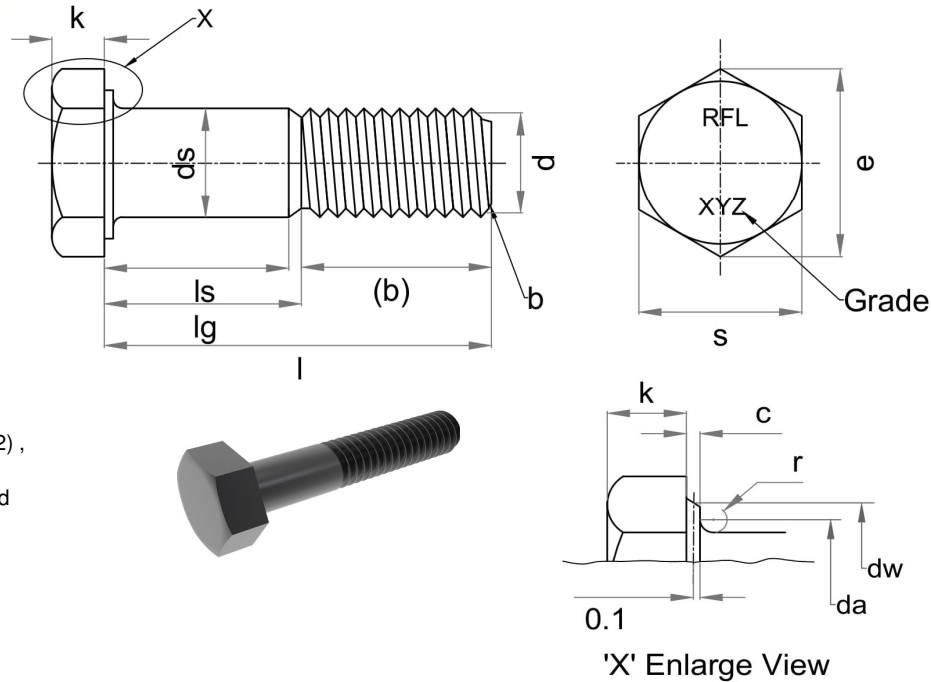


## Hexagon Bolt – DIN 931

### Metric Series – Dimensions

#### Notes:-

1. The Bolt will be according to DIN 931.
2. Threads will conform to Class 6g of ISO 724 & ISO 965-1.
3. Material High grade carbon/ alloy steel & stainless steel According to ISO 898-1.
4. Heat Treatment: Property Class 8 or 10.
5.  $\beta=15^\circ$  to  $30^\circ$ .
6. In Hot Dip Galvanizing Diameters will be reduced 0.3 mm.
7. Threading Length of bolts according to total length of bolts.   
 { (Total length  $\leq 125 = 2d+6$ ), (  $125 < \text{Total length} < 200 = 2d+12$  ),   
 (Total length  $> 200 = 2d+25$  ) }
8. Point shall be chamfered or for threads  $\leq M4$  may be as-rolled (sheared end) in the accordance with ISO 4753.
9. Incomplete thread  $u = \leq 2P$ .
10. Reference datum for dw.
11. Maximum under head fillet.
12. Chamfer (b) is Double of Pitch (  $b = 2P$  ).
13. All dimensions are in millimetres.



S. No.	Size	Pitch (p)	Width across corner (e)		Width across Flat (s)		Thickness (k)		da	dw	Shank diameter (ds)		Radius (r)		Washer height (c)		Major Diameter (D)		Pitch Diameter (D1)		Minor Diameter (D2)
			Min.	Max.	Min.	Max.	Min.	Max.			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
1	M-16	2.00	26.17	23.16	24.00	9.71	10.29	17.70	22.00	15.57	16.00	0.60	0.20	0.80	15.68	15.96	14.50	14.60	13.80		
2	M-18	2.50	29.56	26.16	27.00	11.15	11.85	20.20	24.85	17.57	18.00	0.60	0.20	0.80	17.62	17.96	16.15	16.25	15.25		
3	M-20	2.50	32.95	29.16	30.00	12.15	12.85	22.40	27.70	19.48	20.00	0.80	0.20	0.80	19.62	19.96	18.15	18.25	17.25		
4	M-22	2.50	37.29	33.00	34.00	13.65	14.35	24.40	31.35	21.48	22.00	0.80	0.20	0.80	21.62	21.96	20.15	20.25	19.25		
5	M-24	3.00	39.55	35.00	36.00	14.65	15.35	26.40	33.25	23.48	24.00	0.80	0.20	0.80	23.58	23.95	21.80	21.90	20.74		
6	M-27	3.00	45.20	40.00	41.00	16.65	17.35	30.40	38.00	26.48	27.00	1.00	0.20	0.80	26.58	26.95	24.80	24.90	23.70		
7	M30	3.50	50.85	53.80	55.00	18.18	19.12	39.40	42.75	29.48	30.00	1.00	0.20	0.80	29.52	29.95	27.50	27.60	26.16		
8	M-33	3.50	55.37	49.00	50.00	20.58	21.42	36.40	46.55	32.38	33.00	1.00	0.20	0.80	32.52	32.95	30.45	30.55	29.16		
9	M-36	4.00	60.79	53.80	55.00	22.08	22.92	39.40	51.11	35.38	36.00	1.00	0.20	0.80	35.46	35.94	33.15	33.25	31.61		
10	M-39	4.00	66.44	58.80	60.00	24.58	25.42	42.40	55.86	38.38	39.00	1.00	0.30	1.00	38.46	38.94	36.20	36.30	34.61		
11	M-42	4.50	71.30	63.10	65.00	25.58	26.42	45.60	59.95	41.38	42.00	1.20	0.30	1.00	41.44	41.94	38.80	38.90	37.07		
12	M-45	4.50	76.95	68.10	70.00	27.58	28.42	48.60	64.70	44.38	45.00	1.20	0.30	1.00	44.44	44.94	41.80	41.90	40.07		
13	M-48	5.00	82.60	73.10	75.00	29.58	30.42	52.60	69.45	47.38	48.00	1.60	0.30	1.00	47.40	47.93	44.50	44.60	42.52		
14	M-52	5.00	88.25	78.10	80.00	32.50	33.50	56.60	74.20	51.26	52.00	1.60	0.30	1.00	51.40	51.93	48.50	48.60	46.52		
15	M-56	5.50	93.56	82.80	85.00	34.50	35.50	63.00	78.66	55.26	56.00	2.00	0.30	1.00	55.36	55.92	52.10	52.20	49.97		
16	M-60	5.50	99.21	87.80	90.00	37.50	38.50	67.00	83.41	59.26	60.00	2.00	0.30	1.00	59.36	59.92	57.85	57.95	53.97		
17	M-64	6.00	104.86	92.80	95.00	39.50	40.50	71.00	88.16	63.26	64.00	2.00	0.30	1.00	63.32	63.92	59.80	59.90	57.42		

## Hexagon Bolt – DIN 931

L	Total Length		M-16		M-16 thread length		M-18		M-18 thread length		M-20		M-20 thread length		M-22		M-22 thread length		M-24		M-24 thread length		M-27		M-27 thread length		M-30		M-30 thread length		M-33		M-33 thread length		M-36			
	Min.	Max.	Ls	Lg	Min	Max	Ls	Lg	Min	Max	Ls	Lg	Min	Max	Ls	Lg	Min	Max	Ls	Lg	Min	Max	Ls	Lg	Min	Max	Ls	Lg	Min	Max	Ls	Lg	Min	Max	Ls	Lg		
																																					min.	max.
70	68.50	71.50	22.00	32.00	38.00	39.00	15.50	28.00	42.00	43.00	11.50	24.00	46.00	47.00																								
80	78.50	81.50	32.00	42.00	38.00	39.00	25.50	38.00	42.00	43.00	21.50	34.00	46.00	47.00																								
90	88.25	91.75	42.00	52.00	38.00	39.00	35.50	48.00	42.00	43.00	31.50	44.00	46.00	47.00	27.50	40.00	50.00	51.00	21.00	36.00	54.00	55.00																
100	98.25	101.75	52.00	62.00	38.00	39.00	45.50	58.00	42.00	43.00	41.50	54.00	46.00	47.00	37.50	50.00	50.00	51.00	31.00	46.00	54.00	55.00	25.00	40.00	60.00	61.00	16.50	34.00	66.00	67.00								
110	108.25	111.75	62.00	72.00	38.00	39.00	55.50	68.00	42.00	43.00	51.50	64.00	46.00	47.00	47.50	60.00	50.00	51.00	41.00	56.00	54.00	55.00	35.00	50.00	60.00	61.00	26.50	44.00	66.00	67.00								
120	118.25	121.75	72.00	82.00	38.00	39.00	65.50	78.00	42.00	43.00	61.50	74.00	46.00	47.00	57.50	70.00	50.00	51.00	51.00	66.00	54.00	55.00	45.00	60.00	60.00	61.00	36.50	54.00	66.00	67.00								
130	128.00	132.00	76.00	86.00	44.00	45.00	69.50	82.00	48.00	49.00	65.50	78.00	52.00	53.00	61.50	74.00	56.00	57.00	78.00	55.00	60.00	61.00	49.00	64.00	66.00	67.00	40.50	58.00	72.00	73.00	34.50	52.00	78.00	79.00	26.00	46.00		
140	138.00	142.00	86.00	96.00	44.00	45.00	79.50	92.00	48.00	49.00	75.50	88.00	52.00	53.00	71.50	84.00	56.00	57.00	88.00	65.00	60.00	61.00	59.00	74.00	66.00	67.00	50.50	68.00	72.00	73.00	44.50	62.00	78.00	79.00	36.00	56.00		
150	148.00	152.00	96.00	106.00	44.00	45.00	89.50	102.00	48.00	49.00	85.50	98.00	52.00	53.00	81.50	94.00	56.00	57.00	98.00	75.00	60.00	61.00	69.00	84.00	66.00	67.00	60.50	78.00	72.00	73.00	54.50	72.00	78.00	79.00	46.00	66.00		
160	158.00	162.00	106.00	116.00	44.00	45.00	99.50	112.00	48.00	49.00	95.50	108.00	52.00	53.00	91.50	104.00	56.00	57.00	108.00	85.00	60.00	61.00	79.00	94.00	66.00	67.00	70.50	88.00	72.00	73.00	64.50	82.00	78.00	79.00	56.00	76.00		
170	168.00	172.00	116.00	126.00	44.00	45.00	109.50	122.00	48.00	49.00	105.50	118.00	52.00	53.00	101.50	114.00	56.00	57.00	118.00	95.00	60.00	61.00	89.00	104.00	66.00	67.00	80.50	98.00	72.00	73.00	74.50	92.00	78.00	79.00	66.00	86.00		
180	178.00	182.00	126.00	136.00	44.00	45.00	119.50	132.00	48.00	49.00	115.50	128.00	52.00	53.00	111.50	124.00	56.00	57.00	128.00	105.00	60.00	61.00	99.00	114.00	66.00	67.00	90.50	108.00	72.00	73.00	84.50	102.00	78.00	79.00	76.00	96.00		
190	188.00	192.00	136.00	146.00	44.00	45.00	129.50	142.00	48.00	49.00	125.50	138.00	52.00	53.00	121.50	134.00	56.00	57.00	138.00	115.00	60.00	61.00	109.00	124.00	66.00	67.00	100.50	118.00	72.00	73.00	94.50	112.00	78.00	79.00	86.00	106.00		
200	197.70	202.30	146.00	156.00	44.00	45.00	139.50	152.00	48.00	49.00	135.50	148.00	52.00	53.00	131.50	144.00	56.00	57.00	148.00	125.00	60.00	61.00	119.00	134.00	66.00	67.00	110.50	128.00	72.00	73.00	104.50	122.00	78.00	79.00	96.00	116.00		
210	207.70	212.30	143.00	153.00	57.00	58.00	136.50	149.00	61.00	62.00	132.50	145.00	65.00	66.00	128.50	141.00	69.00	70.00	122.00	137.00	73.00	74.00	116.00	131.00	79.00	80.00	107.50	125.00	85.00	86.00	101.50	119.00	91.00	92.00	93.00	113.00		
220	217.70	222.30	153.00	163.00	57.00	58.00	146.50	159.00	61.00	62.00	142.50	155.00	65.00	66.00	138.50	151.00	69.00	70.00	132.00	147.00	73.00	74.00	126.00	141.00	79.00	80.00	117.50	135.00	85.00	86.00	111.50	129.00	91.00	92.00	103.00	123.00		
230	227.70	232.30	163.00	173.00	57.00	58.00	156.50	169.00	61.00	62.00	152.50	165.00	65.00	66.00	148.50	161.00	69.00	70.00	142.00	157.00	73.00	74.00	136.00	151.00	79.00	80.00	127.50	145.00	85.00	86.00	121.50	139.00	91.00	92.00	113.00	133.00		
240	237.70	242.30	173.00	183.00	57.00	58.00	166.50	179.00	61.00	62.00	162.50	175.00	65.00	66.00	158.50	171.00	69.00	70.00	152.00	167.00	73.00	74.00	146.00	161.00	79.00	80.00	137.50	155.00	85.00	86.00	131.50	149.00	91.00	92.00	123.00	143.00		
250	247.70	252.30	183.00	193.00	57.00	58.00	176.50	189.00	61.00	62.00	172.50	185.00	65.00	66.00	168.50	181.00	69.00	70.00	162.00	177.00	73.00	74.00	156.00	171.00	79.00	80.00	147.50	165.00	85.00	86.00	141.50	159.00	91.00	92.00	133.00	153.00		
260	257.40	262.60	193.00	203.00	57.00	58.00	186.50	199.00	61.00	62.00	182.50	195.00	65.00	66.00	178.50	191.00	69.00	70.00	172.00	187.00	73.00	74.00	166.00	181.00	79.00	80.00	157.50	175.00	85.00	86.00	151.50	169.00	91.00	92.00	143.00	163.00		
270	267.40	272.60	203.00	213.00	57.00	58.00	196.50	209.00	61.00	62.00	192.50	205.00	65.00	66.00	188.50	201.00	69.00	70.00	182.00	197.00	73.00	74.00	176.00	191.00	79.00	80.00	167.50	185.00	85.00	86.00	161.50	179.00	91.00	92.00	153.00	173.00		
280	277.40	282.60	213.00	223.00	57.00	58.00	206.50	219.00	61.00	62.00	202.50	215.00	65.00	66.00	198.50	211.00	69.00	70.00	192.00	207.00	73.00	74.00	186.00	201.00	79.00	80.00	177.50	195.00	85.00	86.00	171.50	189.00	91.00	92.00	163.00	183.00		
290	287.40	292.60	223.00	233.00	57.00	58.00	216.50	229.00	61.00	62.00	212.50	225.00	65.00	66.00	208.50	221.00	69.00	70.00	202.00	217.00	73.00	74.00	196.00	211.00	79.00	80.00	187.50	205.00	85.00	86.00	181.50	199.00	91.00	92.00	173.00	193.00		
300	297.40	302.60	233.00	243.00	57.00	58.00	226.50	239.00	61.00	62.00	222.50	235.00	65.00	66.00	218.50	231.00	69.00	70.00	212.00	227.00	73.00	74.00	206.00	221.00	79.00	80.00	197.50	215.00	85.00	86.00	191.50	209.00	91.00	92.00	183.00	203.00		
310	307.40	312.60	243.00	253.00	57.00	58.00	236.50	249.00	61.00	62.00	232.50	245.00	65.00	66.00	228.50	241.00	69.00	70.00	222.00	237.00	73.00	74.00	216.00	231.00	79.00	80.00	207.50	225.00	85.00	86.00	201.50	219.00	91.00	92.00	193.00	213.00		
320	317.15	322.85	253.00	263.00	57.00	58.00	246.50	259.00	61.00	62.00	242.50	255.00	65.00	66.00	238.50	251.00	69.00	70.00	232.00	247.00	73.00	74.00	226.00	241.00	79.00	80.00	217.50	235.00	85.00	86.00	211.50	229.00	91.00	92.00	203.00	223.00		
330	327.15	332.85	263.00	273.00	57.00	58.00	256.50	269.00	61.00	62.00	252.50	265.00	65.00	66.00	248.50	261.00	69.00	70.00	242.00	257.00	73.00	74.00	236.00	251.00	79.00	80.00	227.50	245.00	85.00	86.00	221.50	239.00	91.00	92.00	213.00	233.00		
340	337.15	342.85	273.00	283.00	57.00	58.00	266.50	279.00	61.00	62.00	262.50	275.00	65.00	66.00	258.50	271.00	69.00	70.00	252.00	267.00	73.00	74.00	246.00	261.00	79.00	80.00	237.50	255.00	85.00	86.00	231.50	249.00	91.00	92.00	223.00	243.00		
350	347.15	352.85	283.00	293.00	57.00	58.00	276.50	289.00	61.00	62.00	272.50	285.00	65.00	66.00	268.50	281.00	69.00	70.00	262.00	277.00	73.00	74.00	256.00	271.00	79.00	80.00	247.50	265.00	85.00	86.00	241.50	259.00	91.00	92.00	233.00	253.00		
360	357.15	362.85	293.00	303.00	57.00	58.00	286.50	299.00	61.00	62.00	282.50	295.00	65.00	66.00	278.50	291.00	69.00	70.00	272.00	287.00	73.00	74.00	266.00	281.00	79.00	80.00	257.50	275.00	85.00	86.00	251.50	269.00						



## Hexagon Bolt – DIN 931

L	Total Length		M-36 thread length		M-39		M-39 thread length		M-42		M-42 thread length		M-45		M-45 thread length		M-48		M-48 thread length		M-52		M-52 thread length		M-56		M-56 thread length		M-60		M-60 thread length		M-64		M-64 thread length	
	Min.	Max.	Min	Max	ls	Lg	Min	Max	ls	Lg	Min	Max	ls	Lg	Min	Max	ls	Lg	Min	Max	ls	Lg	Min	Max.	ls	Lg	Min	Max	ls	Lg	Min	Max	ls	Lg	Min	Max
Nominal length					min.	max.			min.	max.			min.	max.			min.	max.			min.	max.			min.	max.			min.	max.			min.	max.		
70	68.50	71.50																																		
80	78.50	81.50																																		
90	88.25	91.75																																		
100	98.25	101.75																																		
110	108.25	111.75																																		
120	118.25	121.75																																		
130	128.00	132.00	84.00	85.00																																
140	138.00	142.00	84.00	85.00																																
150	148.00	152.00	84.00	85.00	40.00	60.00	90.00	91.00																												
160	158.00	162.00	84.00	85.00	50.00	70.00	90.00	91.00	41.50	64.00	96.00	97.00																								
170	168.00	172.00	84.00	85.00	60.00	80.00	90.00	91.00	51.50	74.00	96.00	97.00																								
180	178.00	182.00	84.00	85.00	70.00	90.00	90.00	91.00	61.50	84.00	96.00	97.00	55.50	78.00	102.00	103.00	47.00	72.00	108.00	109.00																
190	188.00	192.00	84.00	85.00	80.00	100.00	90.00	91.00	71.50	94.00	96.00	97.00	65.50	88.00	102.00	103.00	57.00	82.00	108.00	109.00																
200	197.70	202.30	84.00	85.00	90.00	110.00	90.00	91.00	81.50	104.00	96.00	97.00	75.50	98.00	102.00	103.00	67.00	92.00	108.00	109.00	59.00	84.00	116.00	117.00												
210	207.70	212.30	97.00	98.00	87.00	107.00	103.00	104.00	78.50	101.00	109.00	110.00	72.50	95.00	115.00	116.00	74.00	99.00	121.00	122.00	56.00	81.00	129.00	130.00	45.50	73.00	137.00	138.00	37.50	65.00	145.00	146.00	27.00	57.00	153.00	154.00
220	217.70	222.30	97.00	98.00	97.00	117.00	103.00	104.00	88.50	111.00	109.00	110.00	82.50	105.00	115.00	116.00	84.00	109.00	121.00	122.00	66.00	91.00	129.00	130.00	55.50	83.00	137.00	138.00	47.50	75.00	145.00	146.00	37.00	67.00	153.00	154.00
230	227.70	232.30	97.00	98.00	107.00	127.00	103.00	104.00	98.50	121.00	109.00	110.00	92.50	115.00	115.00	116.00	94.00	119.00	121.00	122.00	76.00	101.00	129.00	130.00	65.50	93.00	137.00	138.00	57.50	85.00	145.00	146.00	47.00	77.00	153.00	154.00
240	237.70	242.30	97.00	98.00	117.00	137.00	103.00	104.00	108.50	131.00	109.00	110.00	102.50	125.00	115.00	116.00	104.00	129.00	121.00	122.00	86.00	111.00	129.00	130.00	75.50	103.00	137.00	138.00	67.50	95.00	145.00	146.00	57.00	87.00	153.00	154.00
250	247.70	252.30	97.00	98.00	127.00	147.00	103.00	104.00	118.50	141.00	109.00	110.00	112.50	135.00	115.00	116.00	114.00	139.00	121.00	122.00	96.00	121.00	129.00	130.00	85.50	113.00	137.00	138.00	77.50	105.00	145.00	146.00	67.00	97.00	153.00	154.00
260	257.40	262.60	97.00	98.00	137.00	157.00	103.00	104.00	128.50	151.00	109.00	110.00	122.50	145.00	115.00	116.00	124.00	149.00	121.00	122.00	106.00	131.00	129.00	130.00	95.50	123.00	137.00	138.00	87.50	115.00	145.00	146.00	77.00	107.00	153.00	154.00
270	267.40	272.60	97.00	98.00	147.00	167.00	103.00	104.00	138.50	161.00	109.00	110.00	132.50	155.00	115.00	116.00	134.00	159.00	121.00	122.00	116.00	141.00	129.00	130.00	105.50	133.00	137.00	138.00	97.50	125.00	145.00	146.00	87.00	117.00	153.00	154.00
280	277.40	282.60	97.00	98.00	157.00	177.00	103.00	104.00	148.50	171.00	109.00	110.00	142.50	165.00	115.00	116.00	144.00	169.00	121.00	122.00	126.00	151.00	129.00	130.00	115.50	143.00	137.00	138.00	107.50	135.00	145.00	146.00	97.00	127.00	153.00	154.00
290	287.40	292.60	97.00	98.00	167.00	187.00	103.00	104.00	158.50	181.00	109.00	110.00	152.50	175.00	115.00	116.00	154.00	179.00	121.00	122.00	136.00	161.00	129.00	130.00	125.50	153.00	137.00	138.00	117.50	145.00	145.00	146.00	107.00	137.00	153.00	154.00
300	297.40	302.60	97.00	98.00	177.00	197.00	103.00	104.00	168.50	191.00	109.00	110.00	162.50	185.00	115.00	116.00	164.00	189.00	121.00	122.00	146.00	171.00	129.00	130.00	135.50	163.00	137.00	138.00	127.50	155.00	145.00	146.00	117.00	147.00	153.00	154.00
310	307.40	312.60	97.00	98.00	187.00	207.00	103.00	104.00	178.50	201.00	109.00	110.00	172.50	195.00	115.00	116.00	174.00	199.00	121.00	122.00	156.00	181.00	129.00	130.00	145.50	173.00	137.00	138.00	137.50	165.00	145.00	146.00	127.00	157.00	153.00	154.00
320	317.15	322.85	97.00	98.00	197.00	217.00	103.00	104.00	188.50	211.00	109.00	110.00	182.50	205.00	115.00	116.00	184.00	209.00	121.00	122.00	166.00	191.00	129.00	130.00	155.50	183.00	137.00	138.00	147.50	175.00	145.00	146.00	137.00	167.00	153.00	154.00
330	327.15	332.85	97.00	98.00	207.00	227.00	103.00	104.00	198.50	221.00	109.00	110.00	192.50	215.00	115.00	116.00	194.00	219.00	121.00	122.00	176.00	201.00	129.00	130.00	165.50	193.00	137.00	138.00	157.50	185.00	145.00	146.00	147.00	177.00	153.00	154.00
340	337.15	342.85	97.00	98.00	217.00	237.00	103.00	104.00	208.50	231.00	109.00	110.00	202.50	225.00	115.00	116.00	204.00	229.00	121.00	122.00	186.00	211.00	129.00	130.00	175.50	203.00	137.00	138.00	167.50	195.00	145.00	146.00	157.00	187.00	153.00	154.00
350	347.15	352.85	97.00	98.00	227.00	247.00	103.00	104.00	218.50	241.00	109.00	110.00	212.50	235.00	115.00	116.00	214.00	239.00	121.00	122.00	196.00	221.00	129.00	130.00	185.50	213.00	137.00	138.00	177.50	205.00	145.00	146.00	167.00	197.00	153.00	154.00
360	357.15	362.85	97.00	98.00	237.00	257.00	103.00	104.00	228.50	251.00	109.00	110.00	222.50	245.00	115.00	116.00	224.00	249.00	121.00	122.00	206.00	231.00	129.00	130.00	195.50	223.00	137.00	138.00	187.50	215.00	145.00	146.00	177.00	207.00	153.00	154.00
370	367.15	372.85	97.00	98.00	247.00	267.00	103.00	104.00	238.50	261.00	109.00	110.00	232.50	255.00	115.00	116.00	234.00	259.00	121.00	122.00	216.00	241.00	129.00	130.00	205.50	233.00	137.00	138.00	197.50	225.00	145.00	146.00	187.00	217.00	153.00	154.00
380	377.15	382.85	97.00	98.00	257.00	277.00	103.00	104.00	248.50	271.00	109.00	110.00	242.50	265.00	115.00	116.00	244.00	269.00	121.00	122.00	226.00	251.00	129.00	130.00	215.50	243.00	137.00	138.00	207.50	235.00	145.00	146.00	197.00	227.00	153.00	154.00
390	387.15	392.85	97.00	98.00	267.00	287.00	103.00	104.00	258.50	281.00	109.00	110.00	252.50	275.00	115.00	116.00	254.00	279.00	121.00	122.00	236.00	261.00	129.00	130.00	225.50	253.00	137.00	138.00	217.50	245.00	145.00	146.00	207.00	237.00	153.00	154.00
400	397.15	402.85	97.00	98.00	277.00	297.00	103.00	104.00	268.50	291.00	109.00	110.00	262.50	285.00	115.00	116.00	264.00	289.00	121.00	122.00	246.00	271.00	129.00	130.00	235.50	263.00	137.00	138.00	227.50	255.00	145.00	146.00	217.00	247.00	153.00	154.00
410	407.15	412.85	97.00	98.00	287.00	307.00	103.00	104.00	278.50	301.00	109.00	110.00	272.50	295.00	115.00	116.00	274.00	299.00	121.00	122.00	256.00	281.00	129.00	130.00	245.50	273.00	137.00	138.0								