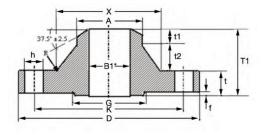
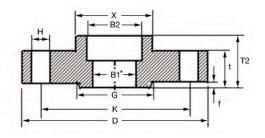




## **ANSI B16.5 CLASS 150 FLANGES**







Socket Welding RF

#### WELDING NECK RF STD\* DIMENSIONS (mm)

					Total	Ne	ck	Н	ub			Holes		Raised	l Face	
Si	ze	Outside Diam.	Bore Diam.	Thick- ness	Thick- ness	Base Diam.	Thick- ness	Thick- ness	Diam.	Radius	Diam.	No.	P.C.D	Outside Diam.	Thick- ness	Net Weight
mm	inch	D	BI*	t	TI	x	t2	tl	A	R	h	n	К	G	f	kg
15	1/2	88.90	15.75	11.18	47.75	30.23	29.21	7.37	21.34	3.05	15.75	4	60.45	35.05	1.60	0.49
20	3/4	98.55	20.83	12.70	52.32	38.10	31.75	7.87	26.67	3.05	15.75	4	69.85	42.93	1.60	0.72
25	1	107.95	26.67	14.22	55.63	49.28	33.02	8.38	33.53	3.05	15.75	4	79.25	50.80	1.60	1.03
32	11/4	117.35	35.05	15.75	57.15	58.67	33.02	8.38	42.16	4.83	15.75	4	88.90	63.50	1.60	1.34
40	1½	127.00	40.89	17.53	61.98	65.02	35.56	8.89	48.26	6.35	15.75	4	98.55	73.15	1.60	1.74
50	2	152.40	52.58	19.05	63.50	77.72	35.56	8.89	60.45	7.87	19.05	4	120.65	91.95	1.60	2.60
65	2½	177.80	62.74	22.35	69.85	90.42	38.10	9.40	73.15	7.87	19.05	4	139.70	104.65	1.60	4.17
80	3	190.50	77.93	23.88	69.85	107.95	36.83	9.14	88.90	9.65	19.05	4	152.40	127.00	1.60	4.99
90	3½	215.90	90.17	23.88	71.37	122.17	38.10	9.40	101.60	9.65	19.05	8	177.80	139.70	1.60	6.18
100	4	228.60	102.26	23.88	76.20	134.87	41.91	10.41	114.30	11.18	19.05	8	190.50	157.23	1.60	6.98
125	5	254.00	128.19	23.88	88.90	163.58	52.07	12.95	141.22	11.18	22.35	8	215.90	185.67	1.60	8.72
150	6	279.40	154.05	25.40	88.90	192.02	50.80	12.70	168.40	12.70	22.35	8	241.30	215.90	1.60	10.74
200	8	342.90	202.72	28.45	101.60	246.13	58.42	14.73	219.20	12.70	22.35	8	298.45	269.75	1.60	17.68
250	10	406.40	254.51	30.23	101.60	304.80	57.15	14.22	273.05	12.70	25.40	12	361.95	323.85	1.60	24.25
300	12	482.60	304.80	31.75	114.30	365.25	66.04	16.51	323.85	12.70	25.40	12	431.80	381.00	1.60	36.93
350	14	533.40	336.55	35.05	127.00	400.05	73.66	18.29	355.60	12.70	28.45	12	476.25	412.75	1.60	48.88
400	16	596.90	387.35	36.58	127.00	457.20	72.39	18.03	406.40	12.70	28.45	16	539.75	469.90	1.60	60.47
450	18	635.00	438.15	39.62	139.70	504.95	80.01	20.07	457.20	12.70	31.75	16	577.85	533.40	1.60	68.37
500	20	698.50	488.95	42.93	144.53	558.80	81.28	20.32	508.00	12.70	31.75	20	635.00	584.20	1.60	84.60
600	24	812.80	590.55	47.75	152.40	663.45	83.82	20.83	609.60	12.70	35.05	20	749.30	692.15	1.60	115.33

<sup>\*</sup>See below for bore diametre all schedules (S10 to XXS)

#### SOCKET WELDING RF (STD\* and XS\*) DIMENSIONS (mm)

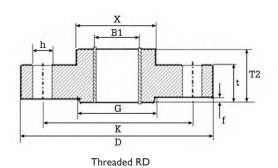
					Po	re			Total	Diam.		Holes		Raised	d Face	
Si	ize	Outside Diam.		iameter 「D		neter	Thick- ness	Socket Depth	Thick- ness	at Base of Hub	Diam.	No.	P.C.D	Outside Diam.	Thick- ness	Net Weight
mm	inch	D	B2	BI*	B2	BI*	t	Y	T2	х	h	n	К	G	f	kg
15	1/2	88.90	22.35	15.75	22.35	13.97	11.18	9.65	15.75	30.23	15.75	4	60.45	35.05	1.60	0.41
20	3/4	98.55	27.69	20.83	27.69	18.80	12.70	11.18	15.75	38.10	15.75	4	69.85	42.93	1.60	0.58
25	1	107.95	34.54	26.67	34.54	24.38	14.22	12.70	17.53	49.28	15.75	4	79.25	50.80	1.60	0.79
32	11/4	117.35	43.18	35.05	43.18	32.51	15.75	14.22	20.57	58.67	15.75	4	88.90	63.50	1.60	1.05
40	1½	127.00	49.53	40.89	49.53	38.10	17.53	15.75	22.35	65.02	15.75	4	98.55	73.15	1.60	1.36
50	2	152.40	61.98	52.58	61.98	49.28	19.05	17.53	25.40	77.72	19.05	4	120.65	91.95	1.60	2.12
65	2½	177.80	74.68	62.74	74.68	58.93	22.35	19.05	28.45	90.42	19.05	4	139.70	104.65	1.60	3.40
80	3	190.50	90.68	77.98	90.68	73.66	23.88	20.57	30.23	107.95	19.05	4	152.40	127.00	1.60	4.01
90	3½	215.90	103.38	90.17	103.38	85.34	23.88	22.35	31.75	122.17	19.05	8	177.80	139.70	1.60	4.99
100	4	228.60	116.08	102.36	116.08	97.28	23.88	23.88	33.27	134.87	19.05	8	190.50	157.23	1.60	5.50
125	5	254.00	143.76	128.27	143.76	122.17	23.88	23.88	36.58	163.58	22.35	8	215.90	185.67	1.60	6.43
150	6	279.40	170.69	154.18	170.69	146.30	25.40	26.92	39.62	192.02	22.35	8	241.30	215.90	1.60	7.88
200	8	342.90	221.49	253.49	221.49	193.80	28.45	31.75	44.45	246.13	22.35	8	298.45	269.75	1.60	10.88
250	10	406.40	276.35	254.51	276.35	247.65	30.23	33.27	49.28	304.80	25.40	12	361.95	323.85	1.60	17.70
300	12	482.60	327.15	304.80	327.15	298.45	31.75	39.62	55.63	365.25	25.40	12	431.80	381.00	1.60	27.65
350	14	533.40	359.16	336.55	359.16	330.20	35.05	41.40	57.15	400.05	28.45	12	476.25	412.75	1.60	36.29
400	16	596.90	410.46	387.35	410.46	381.00	36.58	44.45	63.50	457.20	28.45	16	539.75	469.90	1.60	47.18
450	18	635.00	461.77	438.15	461.77	431.80	39.62	49.28	68.33	504.95	31.75	16	577.85	533.40	1.60	51.39
500	20	698.50	513.08	488.95	513.08	482.60	42.93	54.10	73.15	558.80	31.75	20	635.00	584.20	1.60	64.91
600	24	812.80	615.95	590.55	615.95	584.20	47.75	63.50	82.55	663.45	35.05	20	749.30	692.15	1.60	90.73

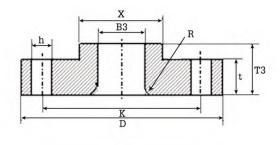
<sup>\*</sup>See below for bore diametre all schedules (\$10 to XXS)





# **ANSI B16.5 CLASS 150 FLANGES**





Lap Joint RF

#### **THREADED RF DIMENSIONS (mm)**

					Total	Diam.			Holes		Raise	d Face	
Si	ze	Outside Diam.	Bore Diam.	Thick- ness	Thick- ness	at Base of Hub	Thread Length	Diam.	No.	P.C.D	Outside Diam.	Thick- ness	Net Weight
mm	inch	D	B2	t	T2	x	Q	h	n	K	G	f	kg
15	1/2	88.90	22.35	11.18	15.75	30.23	15.75	15.75	4	60.45	35.05	1.60	0.40
20	3/4	98.55	27.69	12.70	15.75	38.10	15.75	15.75	4	69.85	42.93	1.60	0.57
25	1	107.95	34.54	14.22	17.53	49.28	17.53	15.75	4	79.25	50.80	1.60	0.78
32	11/4	117.35	43.18	15.75	20.57	58.67	20.57	15.75	4	88.90	63.50	1.60	1.02
40	1½	127.00	49.53	17.53	22.35	65.02	22.35	15.75	4	98.55	73.15	1.60	1.33
50	2	152.40	61.98	19.05	25.40	77.72	25.40	19.05	4	120.65	91.95	1.60	2.07
65	2½	177.80	74.68	22.35	28.45	90.42	28.45	19.05	4	139.70	104.65	1.60	3.31
80	3	190.50	90.68	23.88	30.23	107.95	30.23	19.05	4	152.40	127.00	1.60	3.88
90	3½	215.90	103.38	23.88	31.75	122.17	31.75	19.05	8	177.80	139.70	1.60	4.84
100	4	228.60	116.08	23.88	33.27	134.87	33.27	19.05	8	190.50	157.23	1.60	5.32
125	5	254.00	143.76	23.88	36.58	163.58	36.58	22.35	8	215.90	185.67	1.60	6.10
150	6	279.40	170.69	25.40	39.62	192.02	39.62	22.35	8	241.30	215.90	1.60	7.46
200	8	342.90	221.49	28.45	44.45	246.13	44.45	22.35	8	298.45	269.75	1.60	12.07
250	10	406.40	276.35	30.23	49.28	304.80	49.28	25.40	12	361.95	323.85	1.60	16.56
300	12	482.60	327.15	31.75	55.63	365.25	55.63	25.40	12	431.80	381.00	1.60	26.26
350	14	533.40	359.16	35.05	57.15	400.05	57.15	28.45	12	476.25	412.75	1.60	34.76
400	16	596.90	410.46	36.58	63.50	457.20	63.50	28.45	16	539.75	469.90	1.60	45.02
450	18	635.00	461.77	39.62	68.33	504.95	68.33	31.75	16	577.85	533.40	1.60	48.90
500	20	698.50	513.08	42.93	73.15	558.80	73.15	31.75	20	635.00	584.20	1.60	62.07
600	24	812.80	615.95	47.75	82.55	663.45	82.55	35.05	20	749.30	692.15	1.60	87.13

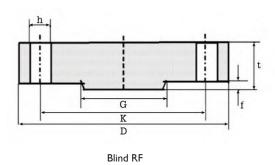
#### **LAP JOINT RF DIMENSIONS (mm)**

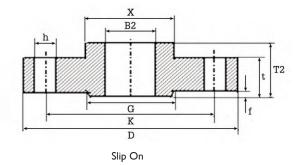
					1	Diam.		Holes		Radius	Raised	d Face	
Si	ize	Outside Diam.	Bore Diam.	Thick- ness	Length thru Hub	at Base of Hub	Diam.	No.	P.C.D	of Fillet	Outside Diam.	Thick- ness	Net Weight
mm	inch	D	В3	t	Т3	х	h	n	K	R	G	f	kg
15	1/2	88.90	22.86	11.18	15.75	30.23	15.75	4	60.45	3.05	35.05	1.60	0.40
20	3/4	98.55	28.19	12.70	15.75	38.10	15.75	4	69.85	3.05	42.93	1.60	0.57
25	1	107.95	35.05	14.22	17.53	49.28	15.75	4	79.25	3.05	50.80	1.60	0.78
32	11/4	117.35	43.69	15.75	20.57	58.67	15.75	4	88.90	4.83	63.50	1.60	1.02
40	1½	127.00	50.04	17.53	22.35	65.02	15.75	4	98.55	6.35	73.15	1.60	1.33
50	2	152.40	62.48	19.05	25.40	77.72	19.05	4	120.65	7.87	91.95	1.60	2.06
65	2½	177.80	75.44	22.35	28.45	90.42	19.05	4	139.70	7.87	104.65	1.60	3.29
80	3	190.50	91.44	23.88	30.23	107.95	19.05	4	152.40	9.65	127.00	1.60	3.85
90	3½	215.90	104.14	23.88	31.75	122.17	19.05	8	177.80	9.65	139.70	1.60	4.81
100	4	228.60	116.84	23.88	33.27	134.87	19.05	8	190.50	11.18	157.23	1.60	5.29
125	5	254.00	144.53	23.88	36.58	163.58	22.35	8	215.90	11.18	185.67	1.60	6.05
150	6	279.40	171.45	25.40	39.62	192.02	22.35	8	241.30	12.70	215.90	1.60	7.39
200	8	342.90	222.25	28.45	44.45	246.13	22.35	8	298.45	12.70	269.75	1.60	11.98
250	10	406.40	277.37	30.23	49.28	304.80	25.40	12	361.95	12.70	323.85	1.60	16.38
300	12	482.60	328.17	31.75	55.63	365.25	25.40	12	431.80	12.70	381.00	1.60	26.03
350	14	533.40	360.17	35.05	79.25	400.05	28.45	12	476.25	12.70	412.75	1.60	38.63
400	16	596.90	411.23	36.58	87.38	457.20	28.45	16	539.75	12.70	469.90	1.60	50.65
450	18	635.00	462.28	39.62	96.77	504.95	31.75	16	577.85	12.70	533.40	1.60	55.94
500	20	698.50	514.35	42.93	103.12	558.80	31.75	20	635.00	12.70	584.20	1.60	70.30
600	24	812.80	615.95	47.75	111.25	663. <del>4</del> 5	35.05	20	749.30	12.70	692.15	1.60	97.89





## **ANSI B16.5 CLASS 150 FLANGES**





#### **BLIND RF DIMENSIONS (mm)**

					Holes		Raise	d Face	
Si	ize	Outside Diameter	Thickness	Diameter	Number	P.C.D	Outside Di- ameter	Thickness	Net Weight
mm	inch	D	t	h	n	К	G	f	kg
15	'У.	88.90	11.18	15.75	4	60.45	35.05	1.60	0.42
20	3/4	98.55	12.70	15.75	4	69.85	42.93	1.60	0.62
25	1	107.95	14.22	15.75	4	79.25	50.80	1.60	0.86
32	11/4	117.35	15.75	15.75	4	88.90	63.50	1.60	1.16
40	1½	127.00	17.53	15.75	4	98.55	73.15	1.60	1.54
50	2	152.40	19.05	19.05	4	120.65	91.95	1.60	2.43
65	2½	177.80	22.35	19.05	4	139.70	104.65	1.60	3.98
80	3	190.50	23.88	19.05	4	152.40	127.00	1.60	4.95
90	3½	215.90	23.88	19.05	8	177.80	139.70	1.60	6.21
100	4	228.60	23.88	19.05	8	190.50	157.23	1.60	7.04
125	5	254.00	23.88	22.35	8	215.90	185.67	1.60	8.67
150	6	279.40	25.40	22.35	8	241.30	215.90	1.60	11.34
200	8	342.90	28.45	22.35	8	298.45	269.75	1.60	19.54
250	10	406.40	30.23	25.40	12	361.95	323.85	1.60	28.85
300	12	482.60	31.75	25.40	12	431.80	381.00	1.60	43.33
350	14	533.40	35.05	28.45	12	476.25	412.75	1.60	58.41
400	16	596.90	36.58	28.45	16	539.75	469.90	1.60	76.28
450	18	635.00	39.62	31.75	16	577.85	533.40	1.60	93.60
500	20	698.50	42.93	31.75	20	635.00	584.20	1.60	122.62
600	24	812.80	47.75	35.05	20	749.30	692.15	1.60	185.79

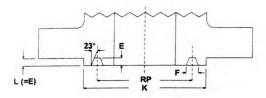
#### **SLIP ON RF DIMENSIONS (mm)**

					Total	Diam. of		Holes		Raise	d Face	
Si	ze	Outside Diam.	Bore Diam.	Thickness	Thick- ness	Base of Hub	Diam.	No.	P.C.D	Outside Diam.	Thickness	Net Weight
mm	inch	D	B2	t	T2	x	h	n	K	G	f	kg
15	1/2	88.90	22.35	11.18	15.75	30.23	15.75	4	60.45	35.05	1.60	0.40
20	3/4	98.55	27.69	12.70	15.75	38.10	15.75	4	69.85	42.93	1.60	0.57
25	1	107.95	34.54	14.22	17.53	49.28	15.75	4	79.25	50.80	1.60	0.78
32	11/4	117.35	43.18	15.75	20.57	58.67	15.75	4	88.90	63.50	1.60	1.02
40	1½	127.00	49.53	17.53	22.35	65.02	15.75	4	98.55	73.15	1.60	1.33
50	2	152.40	61.98	19.05	25.40	77.72	19.05	4	120.65	91.95	1.60	2.07
65	2½	177.80	74.68	22.35	28.45	90.42	19.05	4	139.70	104.65	1.60	3.31
80	3	190.50	90.68	23.88	30.23	107.95	19.05	4	152.40	127.00	1.60	3.88
90	3½	215.90	103.38	23.88	31.75	122.17	19.05	8	177.80	139.70	1.60	4.84
100	4	228.60	116.06	23.88	33.27	134.87	19.05	8	190.50	157.23	1.60	5.32
125	5	254.00	143.76	23.88	36.58	163.58	22.35	8	215.90	185.67	1.60	6.10
150	6	279.40	170.69	25.40	39.62	192.02	22.35	8	241.30	215.90	1.60	7.46
200	8	342.90	221.49	28.45	44.45	246.13	22.35	8	298.45	269.75	1.60	12.07
250	10	406.40	276.35	30.23	49.28	304.80	25.40	12	361.95	323.85	1.60	16.56
300	12	482.60	327.15	31.75	55.63	365.25	25.40	12	431.80	381.00	1.60	26.26
350	14	533.40	359.16	35.05	57.15	400.05	28.45	12	476.25	412.75	1.60	34.76
400	16	596.90	410.46	36.58	63.50	457.20	28.45	16	539.75	469.90	1.60	45.02
450	18	635.00	461.77	39.62	68.33	504.95	31.75	16	577.85	533.40	1.60	48.90
500	20	698.50	513.08	42.93	73.15	558.80	31.75	20	635.00	584.20	1.60	62.07
600	24	812.80	615.95	47.75	82.55	663.45	35.05	20	749.30	692.15	1.60	87.13





# **ANSI B16.5 RING JOINT FACE DIMENSIONS**



Ring Joint

#### **RING JOINT FACE DIMENSIONS (mm)**

	•				•	,									
			ANSI 150	)			A	NSI 300/6	00				ANSI 900	)	
Size	Ring No.	Pitch Diam.	Width Groove	Depth Groove	RF Diam.	Ring No.	Pitch Diam.	Width Groove	Depth Groove	RF Diam.	Ring No.	Pitch Diam.	Width Groove	Depth Groove	RF Diam.
mm	RN	RP	F	E	K	RN	RP	F	E	К	RN	RP	F	E	К
15						- 11	34.1	7.1	5.5	50.8	12	39.6	8.7	6.3	60.3
20						13	42.8	8.7	6.3	63.5	14	44.4	8.7	6.3	66.6
25	15	47.6	8.7	6.3	63.5	16	50.8	8.7	6.3	69.8	16	50.8	8.7	6.3	71.4
32	17	57. I	8.7	6.3	73.0	18	60.3	8.7	6.3	79.3	18	60.3	8.7	6.3	80.9
40	19	65.0	8.7	6.3	82.5	20	68.2	8.7	6.3	90.4	20	68.2	8.7	6.3	92.0
50	22	82.5	8.7	6.3	101.6	23	82.5	11.9	7.9	107.9	24	95.2	11.9	7.9	123.8
65	25	101.6	8.7	6.3	120.6	26	101.6	11.9	7.9	127.0	27	107.9	11.9	7.9	136.5
80	29	114.3	8.7	6.3	133.3	31	123.8	11.9	7.9	146.0	31	123.8	11.9	7.9	155.5
90	33	131.7	8.7	6.3	153.9	34	131.7	11.9	7.9	158.7					
100	36	149.2	8.7	6.3	171.4	37	149.2	11.9	7.9	174.6	37	149.2	11.9	7.9	180.9
125	40	171.4	8.7	6.3	193.6	41	180.9	11.9	7.9	209.5	41	180.9	11.9	7.9	215.9
150	43	193.6	8.7	6.3	219.0	45	211.1	11.9	7.9	241.3	45	211.1	11.9	7.9	241.3
200	48	247.6	8.7	6.3	273.0	49	269.8	11.9	7.9	301.6	49	269.8	11.9	7.9	307.9
250	52	304.8	8.7	6.3	330.2	53	323.8	11.9	7.9	355.6	53	323.8	11.9	7.9	361.9
300	56	381.0	8.7	6.3	406.4	57	381.0	11.9	7.9	412.7	57	381.0	11.9	7.9	419.1
350	59	396.8	8.7	6.3	425.4	61	419.1	11.9	7.9	457.2	62	419.1	16.6	11.1	466.7
400	64	454.0	8.7	6.3	482.6	65	469.9	11.9	7.9	508.0	66	469.9	16.6	11.1	523.8
450	68	517.5	8.7	6.3	546.1	69	533.4	11.9	7.9	574.6	70	533.4	19.8	12.7	593.7
500	72	558.8	8.7	6.3	596.9	73	584.2	13.4	9.5	635.0	74	584.2	19.8	12.7	647.7
600	76	673.I	8.7	6.3	711.2	77	692.1	16.6	11.1	749.3	78	692.1	26.9	15.8	771.5

			ANSI 150	0				ANSI 250	0	
Size	Ring No.	Pitch Diam.	Width Groove	Depth Groove	RF Diam.	Ring No.	Pitch Diam.	Width Groove	Depth Groove	RF Diam.
mm	RN	RP	F	E	К	RN	RP	F	E	К
15		•	'			13	42.8	8.7	6.3	65.0
20		25	NBTO 651	NΒ		16	50.8	8.7	6.3	73.0
25		ARE IDEN	NTICALTO	<b>ANSI 900</b>		18	60.3	8.7	6.3	82.5
32						21	72.2	11.9	7.9	101.6
40						23	82.5	11.9	7.9	114.3
50						26	101.6	11.9	7.9	133.3
65						28	111.1	13.4	9.5	149.2
80	35	136.5	11.9	7.9	168.2	32	127.0	13.4	9.5	168.2
100	39	161.9	11.9	7.9	193.6	38	157.1	16.6	11.1	203.2
125	44	193.6	11.9	7.9	228.6	42	190.5	19.8	12.7	241.3
150	46	211.1	13.4	9.5	247.6	47	228.6	19.8	12.7	279.4
200	50	269.8	16.6	11.1	317.5	51	279.4	23.0	14.2	339.7
250	54	323.8	16.6	11.1	371.4	55	342.9	30.1	17.4	425.4
300	58	381.0	23.0	14.2	438.1	60	406.4	33.3	17.4	495.3
350	63	419.1	26.9	15.8	488.9					
400	67	469.9	30.1	17.4	546.I					
450	71	533.4	30.1	17.4	612.7					
500	75	584.2	33.3	17.4	673.I					
600	79	692.1	36.5	20.6	793.7					



# BORE DIAMETER FOR ANSI B16.5 FOR WELD NECK & SOCKET WELD FLANGES S10 TO XXS (ALL CLASSES 150 TO 2500)

#### WELD NECK RF DIMENSIONS (mm)

s	ize						Bore Dia	meter BI					
mm	inch	Sch 10	Sch 20	Sch 30	Sch 40	Sch 60	Sch 80	xs	Sch 100	Sch   20	Sch 140	Sch 160	xxs
15	1/2				15.80		13.87	13.87				11.84	6.40
20	3/4				20.93		18.85	18.85				15.60	11.02
25	l I				26.64		24.31	24.31				20.70	15.21
32	11/4				35.05		32.46	32.46				29.46	22.76
40	1½				40.89		38.10	38.10				33.99	27.94
50	2				52.50		49.25	49.25				42.90	38.18
65	2½				62.71		59.00	59.00				53.98	44.98
80	3				77.93		73.66	73.66				66.65	58.42
90	3½				90.12		85.45	85.45				76.20	69.29
100	4				102.26		97.18	97.18		92.05		87.33	80.06
125	5				128.19		122.25	122.25		115.90		109.55	103.20
150	6				154.05		146.33	146.33		139.73		131.80	124.38
200	8		206.38	205.00	202.72	198.45	193.68	193.68	188.95	182.60	177.83	173.05	174.63
250	10		260.35	257.45	254.51	247.65	242.93	247.65	236.58	230.23	222.25	215.90	
300	12		311.15	307.09	303.23	295.30	288.95	298.45	281.03	273.05	266.70	257.20	
350	14	342.90	339.73	336.55	333.35	325.48	317.50	330.20	308.00	300.08	292.10	284.18	
400	16	393.70	390.53	387.35	381.00	373.08	363.58	381.00	354.03	344.53	333.35	325.48	
450	18	444.50	441.33	434.95	428.65	419.10	409.60	431.80	398.48	387.35	377.85	366.73	
500	20	495.30	488.95	482.60	477.88	466.75	455.63	482.60	442.93	431.80	419.10	408.03	
600	24	596.90	590.55	581.03	574.70	560.43	547.73	584.20	531.83	517.55	504.85	490.58	

