



Размер R 0,1-3

C-CERB



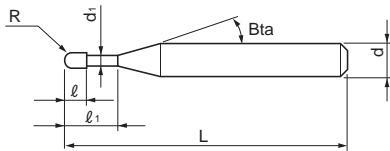
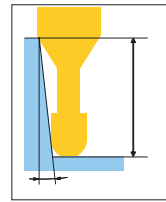
Обрабатываемый материал (наиболее подходящий, подходящий)

Углеродистые стали	Легированные стали	Упрочненные стали	Закаленные стали			Чугун	Алюминиевые сплавы	Графит	Медь	Пластик	Рекомендуемое охлаждение — Подходящее охлаждение Водная эмульсия и Масло — Воздушное
			(~55HRC)	(~60HRC)	(~65HRC)						
S45C S55C	SK-SUS SKM-SUS	NAK HPM									

Общее количество моделей 180

Ед.изм. (мм)

Модель	Рабочий радиус	Длина рабочей части	Длина режущей части	Диаметр шейки	Угол конуса	Общая длина	Диаметр хвостовика	Цена
	R	l_1	l	d_1	β та	L	d	
C-CERB 2002-0.3	R 0.1	0.3	0.16	0.17	16 °	45	4	
C-CERB 2002-0.5		0.5				45	4	
C-CERB 2002-0.75		0.75				45	4	
C-CERB 2002-1		1				45	4	
C-CERB 2002-1.25		1.25				45	4	
C-CERB 2002-1.5		1.5				45	4	
C-CERB 2002-1.75		1.75				45	4	
C-CERB 2002-2		2				45	4	
C-CERB 2002-2.5		2.5				45	4	
C-CERB 2002-3		3				45	4	
C-CERB 2003-0.5	R 0.15	0.5	0.24	0.27	16 °	45	4	
C-CERB 2003-0.75		0.75				45	4	
C-CERB 2003-1		1				45	4	
C-CERB 2003-1.25		1.25				45	4	
C-CERB 2003-1.5		1.5				45	4	
C-CERB 2003-1.75		1.75				45	4	
C-CERB 2003-2		2				45	4	
C-CERB 2003-2.25		2.25				45	4	
C-CERB 2003-2.5		2.5				45	4	
C-CERB 2003-2.75		2.75				45	4	
C-CERB 2003-3		3				45	4	
C-CERB 2003-3.5		3.5				45	4	
C-CERB 2003-4		4				45	4	
C-CERB 2003-4.5		4.5				45	4	
C-CERB 2004-0.5	R 0.2	0.5	0.32	0.37	16 °	45	4	
C-CERB 2004-0.75		0.75				45	4	
C-CERB 2004-1		1				45	4	
C-CERB 2004-1.5		1.5				45	4	



Модель	Рабочий радиус R	Длина раб. части l_1	Длина раб. части при различных углах наклона				
			30'	1°	1° 30'	2°	3°
C-CERB 2002-0.3	R0.1	0.3	0.61	0.70	0.79	0.87	1.03
C-CERB 2002-0.5		0.5	0.83	0.94	1.04	1.13	1.31
C-CERB 2002-0.75		0.75	1.11	1.23	1.34	1.45	1.65
C-CERB 2002-1		1	1.38	1.52	1.65	1.76	1.98
C-CERB 2002-1.25		1.25	1.65	1.81	1.95	2.07	2.30
C-CERB 2002-1.5		1.5	1.93	2.10	2.24	2.37	2.62
C-CERB 2002-1.75		1.75	2.20	2.38	2.53	2.67	2.93
C-CERB 2002-2		2	2.47	2.66	2.82	2.97	3.24
C-CERB 2002-2.5		2.5	3.00	3.22	3.40	3.56	3.85
C-CERB 2002-3		3	3.54	3.77	3.97	4.14	4.46
C-CERB 2003-0.5	R0.15	0.5	0.82	0.90	1.00	1.09	1.29
C-CERB 2003-0.75		0.75	1.10	1.19	1.30	1.41	1.63
C-CERB 2003-1		1	1.37	1.48	1.61	1.72	1.96
C-CERB 2003-1.25		1.25	1.64	1.77	1.91	2.03	2.28
C-CERB 2003-1.5		1.5	1.92	2.06	2.20	2.33	2.60
C-CERB 2003-1.75		1.75	2.19	2.34	2.49	2.63	2.91
C-CERB 2003-2		2	2.46	2.62	2.78	2.93	3.22
C-CERB 2003-2.25		2.25	2.73	2.90	3.07	3.23	3.53
C-CERB 2003-2.5		2.5	2.99	3.18	3.36	3.52	3.83
C-CERB 2003-2.75		2.75	3.26	3.46	3.64	3.81	4.14
C-CERB 2003-3		3	3.53	3.73	3.93	4.10	4.44
C-CERB 2003-3.5		3.5	4.06	4.29	4.49	4.67	5.06
C-CERB 2003-4		4	4.59	4.83	5.05	5.24	5.67
C-CERB 2003-4.5		4.5	5.12	5.38	5.61	5.81	6.28
C-CERB 2004-0.5		R0.2	0.5	0.83	0.93	1.03	1.12
C-CERB 2004-0.75	0.75		1.11	1.22	1.33	1.44	1.62
C-CERB 2004-1	1		1.38	1.51	1.64	1.75	1.95
C-CERB 2004-1.5	1.5		1.93	2.09	2.23	2.36	2.59



Модель	Рабочий радиус R	Длина рабочей части l_1	Длина режущей части l	Диаметр шейки d_1	Угол конуса β	Общая длина L	Диаметр хвостовика d	Цена
C-CERB 2004-2	R 0.2	2	0.32	0.37	16 °	45	4	
C-CERB 2004-2.5		2.5				45	4	
C-CERB 2004-3		3				45	4	
C-CERB 2004-3.5		3.5				45	4	
C-CERB 2004-4		4				45	4	
C-CERB 2004-4.5		4.5				45	4	
C-CERB 2004-5		5				45	4	
C-CERB 2004-5.5		5.5				45	4	
C-CERB 2004-6		6				45	4	
C-CERB 2005-1	R 0.25	1	0.4	0.47	16 °	45	4	
C-CERB 2005-1.5		1.5				45	4	
C-CERB 2005-2		2				45	4	
C-CERB 2005-2.5		2.5				45	4	
C-CERB 2005-3		3				45	4	
C-CERB 2005-3.5		3.5				45	4	
C-CERB 2005-4		4				45	4	
C-CERB 2005-4.5		4.5				45	4	
C-CERB 2005-5		5				45	4	
C-CERB 2005-5.5		5.5				45	4	
C-CERB 2005-6		6				45	4	
C-CERB 2005-7		7				45	4	
C-CERB 2005-8		8				45	4	
C-CERB 2005-9		9				45	4	
C-CERB 2005-10	10	50	4					
C-CERB 2006-1	R 0.3	1	0.48	0.57	16 °	45	4	
C-CERB 2006-1.5		1.5				45	4	
C-CERB 2006-2		2				45	4	
C-CERB 2006-2.5		2.5				45	4	
C-CERB 2006-3		3				45	4	
C-CERB 2006-3.5		3.5				45	4	
C-CERB 2006-4		4				45	4	
C-CERB 2006-4.5		4.5				45	4	
C-CERB 2006-5		5				45	4	
C-CERB 2006-5.5		5.5				45	4	
C-CERB 2006-6		6				45	4	
C-CERB 2006-6.5		6.5				45	4	
C-CERB 2006-7		7				45	4	
C-CERB 2006-7.5		7.5				45	4	
C-CERB 2006-8		8				45	4	
C-CERB 2006-8.5		8.5				45	4	
C-CERB 2006-9		9				45	4	
C-CERB 2006-9.5	9.5	45	4					

Модель	Рабочий радиус R	Длина раб. части l_1	Длина раб. части при различных углах наклона				
			30'	1°	1° 30'	2°	3°
C-CERB 2004-2	R0.2	2	2.47	2.65	2.81	2.96	3.21
C-CERB 2004-2.5		2.5	3.00	3.21	3.39	3.55	3.82
C-CERB 2004-3		3	3.54	3.76	3.96	4.13	4.43
C-CERB 2004-3.5		3.5	4.07	4.32	4.52	4.70	5.05
C-CERB 2004-4		4	4.60	4.86	5.08	5.27	5.66
C-CERB 2004-4.5		4.5	5.13	5.41	5.64	5.84	6.27
C-CERB 2004-5		5	5.66	5.95	6.19	6.41	6.66
C-CERB 2004-5.5		5.5	6.19	6.49	6.74	6.98	7.27
C-CERB 2004-6		6	6.72	7.03	7.29	7.55	8.10
C-CERB 2005-1		R0.25	1	1.36	1.49	1.62	1.73
C-CERB 2005-1.5	1.5		1.91	2.07	2.21	2.34	2.56
C-CERB 2005-2	2		2.45	2.63	2.79	2.94	3.18
C-CERB 2005-2.5	2.5		2.98	3.19	3.37	3.53	3.79
C-CERB 2005-3	3		3.52	3.74	3.94	4.11	4.40
C-CERB 2005-3.5	3.5		4.05	4.30	4.50	4.68	5.02
C-CERB 2005-4	4		4.58	4.84	5.06	5.25	5.63
C-CERB 2005-4.5	4.5		5.11	5.39	5.62	5.82	6.24
C-CERB 2005-5	5		5.64	5.93	6.17	6.39	6.63
C-CERB 2005-5.5	5.5		6.17	6.47	6.72	6.96	7.24
C-CERB 2005-6	6		6.70	7.01	7.27	7.53	8.07
C-CERB 2005-7	7		7.75	8.09	8.37	8.67	9.30
C-CERB 2005-8	8		8.80	9.16	9.47	9.81	10.52
C-CERB 2005-9	9		9.84	10.23	10.58	10.95	11.75
C-CERB 2005-10	10		10.89	11.29	11.68	12.09	12.97
C-CERB 2006-1	R0.3	1	1.37	1.50	1.63	1.71	1.90
C-CERB 2006-1.5		1.5	1.92	2.08	2.22	2.32	2.54
C-CERB 2006-2		2	2.46	2.64	2.80	2.92	3.16
C-CERB 2006-2.5		2.5	2.99	3.20	3.38	3.51	3.77
C-CERB 2006-3		3	3.53	3.75	3.95	4.09	4.38
C-CERB 2006-3.5		3.5	4.06	4.31	4.51	4.66	5.00
C-CERB 2006-4		4	4.59	4.85	5.07	5.23	5.61
C-CERB 2006-4.5		4.5	5.12	5.40	5.63	5.80	6.22
C-CERB 2006-5		5	5.65	5.94	6.18	6.37	6.61
C-CERB 2006-5.5		5.5	6.18	6.48	6.73	6.94	7.22
C-CERB 2006-6		6	6.71	7.02	7.28	7.51	8.05
C-CERB 2006-6.5		6.5	7.23	7.56	7.83	8.08	8.67
C-CERB 2006-7		7	7.76	8.10	8.38	8.65	9.28
C-CERB 2006-7.5		7.5	8.28	8.64	8.93	9.22	9.89
C-CERB 2006-8		8	8.81	9.17	9.48	9.79	10.50
C-CERB 2006-8.5	8.5	9.33	9.70	10.03	10.36	11.11	
C-CERB 2006-9	9	9.85	10.24	10.59	10.93	11.73	
C-CERB 2006-9.5	9.5	10.38	10.77	11.14	11.50	12.34	

Модель	Рабочий радиус R	Длина рабочей части l_1	Длина режущей части l	Диаметр шейки d_1	Угол конуса $\beta_{та}$	Общая длина L	Диаметр хвостовика d	Цена
C-CERB 2006-10	R0.3	10	0.48	0.57	16 °	50	4	
C-CERB 2006-11		11				50	4	
C-CERB 2006-12		12				50	4	
C-CERB 2008-2	R0.4	2	0.64	0.77	16 °	45	4	
C-CERB 2008-3		3				45	4	
C-CERB 2008-4		4				45	4	
C-CERB 2008-5		5				45	4	
C-CERB 2008-6		6				45	4	
C-CERB 2008-7		7				45	4	
C-CERB 2008-8		8				45	4	
C-CERB 2008-9		9				45	4	
C-CERB 2008-10		10				50	4	
C-CERB 2010-2.5		R0.5				2.5	0.8	0.96
C-CERB 2010-3	3		45	4				
C-CERB 2010-4	4		45	4				
C-CERB 2010-5	5		45	4				
C-CERB 2010-6	6		45	4				
C-CERB 2010-7	7		45	4				
C-CERB 2010-8	8		45	4				
C-CERB 2010-9	9		45	4				
C-CERB 2010-10	10		45	4				
C-CERB 2010-12	12		45	4				
C-CERB 2010-14	14		50	4				
C-CERB 2010-16	16		50	4				
C-CERB 2010-18	18		55	4				
C-CERB 2010-20	20		55	4				
C-CERB 2012-6	R0.6	6	0.96	1.16	11 °	45	4	
C-CERB 2012-8		8				45	4	
C-CERB 2012-10		10				45	4	
C-CERB 2012-12		12				45	4	
C-CERB 2012-14		14				50	4	
C-CERB 2012-16		16				50	4	
C-CERB 2012-18		18				55	4	
C-CERB 2012-20		20				60	4	
C-CERB 2014-8	R0.7	8	1.12	1.34	11 °	45	4	
C-CERB 2014-12		12				45	4	
C-CERB 2014-16		16				50	4	
C-CERB 2015-3	R0.75	3	1.2	1.44	11 °	45	4	
C-CERB 2015-4		4				45	4	
C-CERB 2015-6		6				45	4	
C-CERB 2015-8		8				45	4	
C-CERB 2015-10		10				45	4	

Модель	Рабочий радиус R	Длина раб. части l_1	Длина раб. части при различных углах наклона				
			30'	1°	1° 30'	2°	3°
C-CERB 2006-10	R0.3	10	10.90	11.30	11.69	12.07	12.95
C-CERB 2006-11		11	11.94	12.37	12.79	13.20	14.17
C-CERB 2006-12		12	12.98	13.43	13.89	14.34	15.40
C-CERB 2008-2	R0.4	2	2.43	2.61	2.77	2.88	3.15
C-CERB 2008-3		3	3.50	3.72	3.92	4.05	4.37
C-CERB 2008-4		4	4.56	4.82	5.04	5.19	5.60
C-CERB 2008-5		5	5.62	5.91	6.15	6.33	6.60
C-CERB 2008-6		6	6.68	6.99	7.25	7.47	8.04
C-CERB 2008-7		7	7.73	8.07	8.35	8.61	9.27
C-CERB 2008-8		8	8.78	9.14	9.45	9.75	10.49
C-CERB 2008-9		9	9.82	10.21	10.56	10.89	11.72
C-CERB 2008-10		10	10.87	11.27	11.66	12.03	12.94
C-CERB 2010-2.5		R0.5	2.5	2.96	3.16	3.33	3.49
C-CERB 2010-3	3		3.49	3.71	3.90	4.07	4.35
C-CERB 2010-4	4		4.56	4.81	5.02	5.22	5.57
C-CERB 2010-5	5		5.61	5.90	6.13	6.35	6.79
C-CERB 2010-6	6		6.67	6.98	7.24	7.49	8.02
C-CERB 2010-7	7		7.72	8.05	8.34	8.63	9.24
C-CERB 2010-8	8		8.76	9.12	9.44	9.77	10.46
C-CERB 2010-9	9		9.81	10.19	10.54	10.91	11.69
C-CERB 2010-10	10		10.85	11.25	11.64	12.05	12.91
C-CERB 2010-12	12		12.93	13.38	13.84	14.33	15.36
C-CERB 2010-14	14		15.01	15.51	16.04	16.60	17.81
C-CERB 2010-16	16		17.08	17.64	18.24	18.88	20.25
C-CERB 2010-18	18		19.14	19.77	20.44	21.16	22.70
C-CERB 2010-20	20		21.21	21.90	22.64	23.43	25.15
C-CERB 2012-6	R0.6	6	6.22	6.50	6.81	7.16	7.98
C-CERB 2012-8		8	8.31	8.70	9.12	9.60	10.72
C-CERB 2012-10		10	10.41	10.90	11.44	12.03	13.46
C-CERB 2012-12		12	12.50	13.09	13.75	14.47	16.20
C-CERB 2012-14		14	14.60	15.29	16.06	16.91	18.93
C-CERB 2012-16		16	16.69	17.49	18.37	19.35	21.67
C-CERB 2012-18		18	18.79	19.69	20.68	21.79	24.41
C-CERB 2012-20		20	20.88	21.88	22.99	24.22	27.15
C-CERB 2014-8	R0.7	8	8.36	8.75	9.17	9.64	10.75
C-CERB 2014-12		12	12.55	13.14	13.79	14.51	16.23
C-CERB 2014-16		16	16.74	17.54	18.41	19.39	21.71
C-CERB 2015-3	R0.75	3	3.13	3.25	3.38	3.53	3.89
C-CERB 2015-4		4	4.17	4.35	4.54	4.75	5.26
C-CERB 2015-6		6	6.27	6.54	6.85	7.19	8.00
C-CERB 2015-8		8	8.36	8.74	9.16	9.63	10.74
C-CERB 2015-10		10	10.46	10.94	11.47	12.07	13.48

Модель	Рабочий радиус R	Длина рабочей части l_1	Длина режущей части l	Диаметр шейки d_1	Угол конуса Bта	Общая длина L	Диаметр хвостовика d	Цена
C-CERB 2015-12	R0.75	12	1.2	1.44	11°	45	4	
C-CERB 2015-14		14				50	4	
C-CERB 2015-16		16				50	4	
C-CERB 2015-18		18				55	4	
C-CERB 2015-20		20				55	4	
C-CERB 2015-22		22				55	4	
C-CERB 2016-8	R0.8	8	1.28	1.54	11°	45	4	
C-CERB 2016-12		12				45	4	
C-CERB 2016-16		16				50	4	
C-CERB 2016-20		20				55	4	
C-CERB 2018-8	R0.9	8	1.44	1.74	11°	45	4	
C-CERB 2018-12		12				45	4	
C-CERB 2018-16		16				50	4	
C-CERB 2018-20		20				55	4	
C-CERB 2020-3	R1	3	1.6	1.94	11°	45	4	
C-CERB 2020-4		4				45	4	
C-CERB 2020-6		6				45	4	
C-CERB 2020-8		8				45	4	
C-CERB 2020-10		10				45	4	
C-CERB 2020-12		12				45	4	
C-CERB 2020-14		14				50	4	
C-CERB 2020-16		16				50	4	
C-CERB 2020-18		18				55	4	
C-CERB 2020-20		20				55	4	
C-CERB 2020-22		22				60	4	
C-CERB 2020-25		25				65	4	
C-CERB 2020-30		30				70	4	
C-CERB 2020-35		35				80	4	
C-CERB 2020-40		40				80	4	
C-CERB 2025-10		R1.25				10	2	2.41
C-CERB 2025-15	15		50	4				
C-CERB 2025-20	20		55	4				
C-CERB 2025-25	25		65	4				
C-CERB 2025-30	30		70	4				
C-CERB 2030-6-S3	R1.5	6	2.4	2.91	—	60	3	
C-CERB 2030-6-S4		6			60	4		
C-CERB 2030-6-S6		6			60	6		
C-CERB 2030-8		8			60	6		
C-CERB 2030-10		10			60	6		
C-CERB 2030-12		12			60	6		
C-CERB 2030-14		14			60	6		
C-CERB 2030-16		16			60	6		

Модель	Рабочий радиус R	Длина раб. части l_1	Длина раб. части при различных углах наклона				
			30'	1°	1° 30'	2°	3°
C-CERB 2015-12	R0.75	12	12.55	13.14	13.78	14.50	16.21
C-CERB 2015-14		14	14.64	15.33	16.10	16.94	18.95
C-CERB 2015-16		16	16.74	17.53	18.41	19.38	21.69
C-CERB 2015-18		18	18.83	19.73	20.72	21.82	24.43
C-CERB 2015-20		20	20.93	21.93	23.03	24.26	—
C-CERB 2015-22		22	23.02	24.12	25.34	26.69	—
C-CERB 2016-8	R0.8	8	8.33	8.71	9.12	9.59	10.68
C-CERB 2016-12		12	12.52	13.10	13.75	14.46	16.16
C-CERB 2016-16		16	16.71	17.50	18.37	19.34	21.64
C-CERB 2016-20		20	20.90	21.89	22.99	24.21	—
C-CERB 2018-8	R0.9	8	8.33	8.70	9.11	9.56	10.65
C-CERB 2018-12		12	12.52	13.09	13.73	14.44	16.13
C-CERB 2018-16		16	16.70	17.49	18.35	19.32	21.60
C-CERB 2018-20		20	20.89	21.88	22.98	24.19	—
C-CERB 2020-3	R1	3	3.09	3.20	3.32	3.45	3.77
C-CERB 2020-4		4	4.14	4.29	4.47	4.67	5.14
C-CERB 2020-6		6	6.23	6.49	6.78	7.11	7.88
C-CERB 2020-8		8	8.32	8.69	9.09	9.54	10.61
C-CERB 2020-10		10	10.42	10.89	11.40	11.98	13.35
C-CERB 2020-12		12	12.51	13.08	13.72	14.42	16.09
C-CERB 2020-14		14	14.61	15.28	16.03	16.86	18.83
C-CERB 2020-16		16	16.70	17.48	18.34	19.30	—
C-CERB 2020-18		18	18.79	19.68	20.65	21.73	—
C-CERB 2020-20		20	20.89	21.87	22.96	24.17	—
C-CERB 2020-22		22	22.98	24.07	25.27	26.61	—
C-CERB 2020-25		25	26.12	27.37	28.74	—	—
C-CERB 2020-30		30	31.36	32.86	34.52	—	—
C-CERB 2020-35		35	36.59	38.35	—	—	—
C-CERB 2020-40		40	41.83	43.85	—	—	—
C-CERB 2025-10		R1.25	10	10.49	10.95	11.46	12.02
C-CERB 2025-15	15		15.72	16.44	17.23	18.12	—
C-CERB 2025-20	20		20.96	21.93	23.01	—	—
C-CERB 2025-25	25		26.19	27.43	28.79	—	—
C-CERB 2025-30	30		31.43	32.92	—	—	—
C-CERB 2030-6-S3	R1.5	6	—	—	—	—	—
C-CERB 2030-6-S4		6	6.28	6.52	6.79	7.08	7.79
C-CERB 2030-6-S6		6	6.28	6.52	6.79	7.08	7.79
C-CERB 2030-8		8	8.37	8.72	9.10	9.52	10.53
C-CERB 2030-10		10	10.47	10.91	11.41	11.96	13.27
C-CERB 2030-12		12	12.56	13.11	13.72	14.40	16.01
C-CERB 2030-14		14	14.65	15.31	16.03	16.84	18.75
C-CERB 2030-16		16	16.75	17.50	18.34	19.27	21.49

Модель	Рабочий радиус R	Длина рабочей части ℓ_1	Длина режущей части ℓ	Диаметр шейки d_1	Угол конуса Bта	Общая длина L	Диаметр хвостовика d	Цена			
C-CERB 2030-20	R 1.5	20	2.4	2.91	11 °	70	6				
C-CERB 2030-25		25				70	6				
C-CERB 2030-30		30				70	6				
C-CERB 2030-35		35				80	6				
C-CERB 2030-40		40				80	6				
C-CERB 2040-8-S4	R 2	8	3.2	3.91	—	70	4				
C-CERB 2040-8-S6		8			70	6					
C-CERB 2040-10		10			70	6					
C-CERB 2040-12		12			70	6					
C-CERB 2040-14		14			70	6					
C-CERB 2040-16		16			70	6					
C-CERB 2040-20		20			70	6					
C-CERB 2040-25		25			70	6					
C-CERB 2040-30		30			70	6					
C-CERB 2040-35		35			80	6					
C-CERB 2040-40		40			90	6					
C-CERB 2040-45		45			90	6					
C-CERB 2040-50		50			100	6					
C-CERB 2050-10		R 2.5			10	4	4.91	11 °	70	6	
C-CERB 2050-20					20				70	6	
C-CERB 2050-25	25		70	6							
C-CERB 2050-30	30		80	6							
C-CERB 2050-35	35		80	6							
C-CERB 2060-10	R 3	10	4.8	5.91	—	80	6				
C-CERB 2060-30		30				80	6				
C-CERB 2060-50		50				120	6				

Модель	Рабочий радиус R	Длина раб. части l_1	Длина раб. части при различных углах наклона					
			30'	1°	1° 30'	2°	3°	
C-CERB 2030-20	R 1.5	20	20.94	21.90	22.96	24.15	26.96	
C-CERB 2030-25		25	26.17	27.39	28.74	30.24	—	
C-CERB 2030-30		30	31.41	32.89	34.52	36.34	—	
C-CERB 2030-35		35	36.64	38.38	40.30	42.43	—	
C-CERB 2030-40		40	41.88	43.87	46.08	—	—	
C-CERB 2040-8-S4	R 2	8	—	—	—	—	—	
C-CERB 2040-8-S6		8	8.35	8.67	9.02	9.42	10.36	
C-CERB 2040-10		10	10.44	10.86	11.33	11.85	13.10	
C-CERB 2040-12		12	12.54	13.06	13.64	14.29	15.83	
C-CERB 2040-14		14	14.63	15.26	15.95	16.73	18.57	
C-CERB 2040-16		16	16.72	17.46	18.27	19.17	—	
C-CERB 2040-20		20	20.91	21.85	22.89	24.04	—	
C-CERB 2040-25		25	26.15	27.34	28.67	30.14	—	
C-CERB 2040-30		30	31.38	32.84	34.45	—	—	
C-CERB 2040-35		35	36.62	38.33	40.22	—	—	
C-CERB 2040-40		40	41.85	43.82	—	—	—	
C-CERB 2040-45		45	47.09	49.32	—	—	—	
C-CERB 2040-50		50	52.32	54.81	—	—	—	
C-CERB 2050-10		R 2.5	10	10.41	10.81	11.25	11.74	—
C-CERB 2050-20			20	20.88	21.80	—	—	—
C-CERB 2050-25	25		26.12	27.29	—	—	—	
C-CERB 2050-30	30		31.35	—	—	—	—	
C-CERB 2050-35	35		36.59	—	—	—	—	
C-CERB 2060-10	R 3	10	—	—	—	—	—	
C-CERB 2060-30		30	—	—	—	—	—	
C-CERB 2060-50		50	—	—	—	—	—	

Режимы фрезерования для C-CERB

Материал		Углеродистые стали S45C · S50C (~ 225HB)				Легированные стали SK · SCM · SUS (225 ~ 325HB)				Упрочненные, Закаленные стали NAK · SKD (30 ~ 45HRC)				Закаленные стали SKD11 · 61 · SKT (45 ~ 50HRC)			
		Vc = 50 ~ 65m/min				Vc = 40 ~ 55m/min				Vc = 30 ~ 50m/min				Vc = 30 ~ 40m/min			
		a_p															
		(mm)	(mm)	(min ⁻¹)	(mm/min)	(mm)	(min ⁻¹)	(mm/min)	(mm)	(min ⁻¹)	(mm/min)	(mm)	(min ⁻¹)	(mm/min)	(mm)		
2002	R0.1	0.3	54,000	430	0.007 ~ 0.012	54,000	380	0.006 ~ 0.011	54,000	340	0.006 ~ 0.01	54,000	300	0.004 ~ 0.008			
		0.5	54,000	430	0.007 ~ 0.012	54,000	380	0.006 ~ 0.011	54,000	340	0.006 ~ 0.01	54,000	300	0.004 ~ 0.008			
		0.75	54,000	380	0.006 ~ 0.01	54,000	350	0.005 ~ 0.009	54,000	310	0.004 ~ 0.008	54,000	270	0.003 ~ 0.006			
		1	54,000	380	0.006 ~ 0.01	54,000	350	0.005 ~ 0.009	54,000	310	0.004 ~ 0.008	54,000	270	0.003 ~ 0.006			
		1.25	47,000	280	0.004 ~ 0.007	47,000	250	0.003 ~ 0.006	47,000	220	0.003 ~ 0.005	47,000	200	0.002 ~ 0.004			
		1.5	47,000	280	0.004 ~ 0.007	47,000	250	0.003 ~ 0.006	47,000	220	0.003 ~ 0.005	47,000	200	0.002 ~ 0.004			
		1.75	42,000	250	0.002 ~ 0.004	42,000	220	0.001 ~ 0.003	42,000	200	0.001 ~ 0.003	42,000	170	0.001 ~ 0.002			
		2	42,000	250	0.002 ~ 0.004	42,000	220	0.001 ~ 0.003	42,000	200	0.001 ~ 0.003	42,000	170	0.001 ~ 0.002			
		2.5	31,000	170	0.001 ~ 0.002	31,000	150	0 ~ 0.001	31,000	130	0 ~ 0.001	31,000	120	0 ~ 0.001			
3	31,000	170	0 ~ 0.001	31,000	150	0 ~ 0.001	31,000	130	0 ~ 0.001	31,000	120	0 ~ 0.001					
2003	R0.15	0.5	54,000	720	0.012 ~ 0.02	54,000	580	0.01 ~ 0.018	54,000	570	0.009 ~ 0.016	46,000	430	0.007 ~ 0.013			
		0.75	54,000	720	0.012 ~ 0.02	54,000	580	0.01 ~ 0.018	54,000	570	0.009 ~ 0.016	46,000	430	0.007 ~ 0.013			
		1	54,000	640	0.009 ~ 0.016	54,000	580	0.008 ~ 0.014	54,000	510	0.007 ~ 0.012	46,000	390	0.006 ~ 0.01			
		1.25	54,000	640	0.009 ~ 0.016	54,000	580	0.008 ~ 0.014	54,000	510	0.007 ~ 0.012	46,000	390	0.006 ~ 0.01			
		1.5	54,000	640	0.009 ~ 0.016	54,000	580	0.008 ~ 0.014	54,000	510	0.007 ~ 0.012	46,000	390	0.006 ~ 0.01			
		1.75	49,000	530	0.006 ~ 0.01	44,000	420	0.005 ~ 0.009	43,000	370	0.004 ~ 0.008	37,000	270	0.004 ~ 0.007			
		2	49,000	530	0.006 ~ 0.01	44,000	420	0.005 ~ 0.009	43,000	370	0.004 ~ 0.008	37,000	270	0.004 ~ 0.007			
		2.25	49,000	530	0.006 ~ 0.01	44,000	420	0.005 ~ 0.009	43,000	370	0.004 ~ 0.008	37,000	270	0.004 ~ 0.007			
		2.5	43,000	460	0.003 ~ 0.006	39,000	370	0.003 ~ 0.005	38,000	320	0.003 ~ 0.005	32,000	240	0.002 ~ 0.004			
		2.75	43,000	460	0.003 ~ 0.006	39,000	370	0.003 ~ 0.005	38,000	320	0.003 ~ 0.005	32,000	240	0.002 ~ 0.004			
		3	43,000	460	0.003 ~ 0.006	39,000	370	0.003 ~ 0.005	38,000	320	0.003 ~ 0.005	32,000	240	0.002 ~ 0.004			
		3.5	37,000	340	0.001 ~ 0.003	32,000	220	0.001 ~ 0.003	28,000	210	0.001 ~ 0.003	24,000	160	0.001 ~ 0.002			
		4	37,000	300	0.001 ~ 0.003	32,000	220	0.001 ~ 0.002	28,000	180	0.001 ~ 0.002	24,000	140	0.001 ~ 0.002			
4.5	37,000	300	0.001 ~ 0.003	32,000	220	0.001 ~ 0.002	28,000	180	0.001 ~ 0.002	24,000	140	0.001 ~ 0.002					
2004	R0.2	0.5	54,000	870	0.016 ~ 0.028	54,000	790	0.015 ~ 0.025	54,000	700	0.013 ~ 0.022	42,000	480	0.01 ~ 0.018			
		0.75	54,000	870	0.016 ~ 0.028	54,000	790	0.015 ~ 0.025	54,000	700	0.013 ~ 0.022	42,000	480	0.01 ~ 0.018			
		1	54,000	870	0.016 ~ 0.028	54,000	790	0.015 ~ 0.025	54,000	700	0.013 ~ 0.022	42,000	480	0.01 ~ 0.018			
		1.5	54,000	790	0.013 ~ 0.022	54,000	710	0.012 ~ 0.02	54,000	630	0.01 ~ 0.017	42,000	430	0.008 ~ 0.014			
		2	54,000	790	0.013 ~ 0.022	54,000	710	0.012 ~ 0.02	54,000	630	0.01 ~ 0.017	42,000	430	0.008 ~ 0.014			
		2.5	50,000	660	0.009 ~ 0.016	43,000	510	0.008 ~ 0.014	41,000	420	0.007 ~ 0.012	31,000	280	0.006 ~ 0.01			
		3	50,000	660	0.009 ~ 0.016	43,000	510	0.008 ~ 0.014	41,000	420	0.007 ~ 0.012	31,000	280	0.006 ~ 0.01			
		3.5	50,000	640	0.005 ~ 0.009	42,000	490	0.004 ~ 0.008	38,000	400	0.004 ~ 0.007	30,000	270	0.003 ~ 0.006			



Материал			Углеродистые стали S45C · S50C (~ 225HB)				Легированные стали SK · SCM · SUS (225 ~ 325HB)				Упрочненные, Закаленные стали NAK · SKD (30 ~ 45HRC)				Закаленные стали SKD11 · 61 · SKT (45 ~ 50HRC)			
			Vc = 50 ~ 65m/min				Vc = 40 ~ 55m/min				Vc = 30 ~ 50m/min				Vc = 30 ~ 40m/min			
			a_p				a_p				a_p				a_p			
			(mm)	(mm)	(min ⁻¹)	(mm/min)	(mm)	(min ⁻¹)	(mm/min)	(mm)	(min ⁻¹)	(mm/min)	(mm)	(min ⁻¹)	(mm/min)	(mm)	(min ⁻¹)	(mm/min)
2004	R0.2	4	50,000	640	0.005 ~ 0.009	42,000	490	0.004 ~ 0.008	38,000	400	0.004 ~ 0.007	30,000	270	0.003 ~ 0.006				
		4.5	37,000	570	0.003 ~ 0.006	31,000	320	0.003 ~ 0.006	29,000	260	0.003 ~ 0.005	26,000	210	0.002 ~ 0.004				
		5	37,000	570	0.003 ~ 0.006	31,000	320	0.003 ~ 0.006	29,000	260	0.003 ~ 0.005	26,000	210	0.002 ~ 0.004				
		5.5	37,000	360	0.003 ~ 0.005	31,000	250	0.003 ~ 0.005	29,000	230	0.002 ~ 0.004	26,000	180	0.001 ~ 0.003				
		6	37,000	360	0.003 ~ 0.005	31,000	250	0.003 ~ 0.005	29,000	230	0.002 ~ 0.004	26,000	180	0.001 ~ 0.003				
2005	R0.25	1	56,000	1,250	0.021 ~ 0.035	49,000	990	0.018 ~ 0.031	45,000	800	0.016 ~ 0.028	34,000	530	0.013 ~ 0.022				
		1.5	56,000	1,250	0.021 ~ 0.035	49,000	990	0.018 ~ 0.031	45,000	800	0.016 ~ 0.028	34,000	530	0.013 ~ 0.022				
		2	56,000	1,130	0.016 ~ 0.028	49,000	890	0.015 ~ 0.025	45,000	720	0.013 ~ 0.022	34,000	480	0.01 ~ 0.018				
		2.5	56,000	1,130	0.016 ~ 0.028	49,000	890	0.015 ~ 0.025	45,000	720	0.013 ~ 0.022	34,000	480	0.01 ~ 0.018				
		3	52,000	910	0.012 ~ 0.02	43,000	680	0.01 ~ 0.018	40,000	570	0.009 ~ 0.016	29,000	360	0.007 ~ 0.013				
		3.5	52,000	910	0.012 ~ 0.02	43,000	680	0.01 ~ 0.018	40,000	570	0.009 ~ 0.016	29,000	360	0.007 ~ 0.013				
		4	52,000	910	0.012 ~ 0.02	43,000	680	0.01 ~ 0.018	40,000	570	0.009 ~ 0.016	29,000	360	0.007 ~ 0.013				
		4.5	45,000	800	0.007 ~ 0.012	40,000	630	0.006 ~ 0.01	31,000	430	0.005 ~ 0.009	28,000	350	0.004 ~ 0.007				
		5	45,000	800	0.007 ~ 0.012	40,000	630	0.006 ~ 0.01	31,000	430	0.005 ~ 0.009	28,000	350	0.004 ~ 0.007				
		5.5	34,000	550	0.006 ~ 0.01	29,000	430	0.005 ~ 0.009	26,000	340	0.004 ~ 0.008	25,000	280	0.003 ~ 0.006				
		6	34,000	550	0.006 ~ 0.01	29,000	430	0.005 ~ 0.009	26,000	340	0.004 ~ 0.008	25,000	280	0.003 ~ 0.006				
		7	34,000	530	0.004 ~ 0.007	29,000	410	0.003 ~ 0.006	26,000	330	0.003 ~ 0.006	25,000	270	0.002 ~ 0.004				
		8	34,000	530	0.004 ~ 0.007	29,000	410	0.003 ~ 0.006	26,000	330	0.003 ~ 0.006	25,000	270	0.002 ~ 0.004				
9	34,000	410	0.002 ~ 0.004	29,000	320	0.001 ~ 0.003	26,000	250	0.001 ~ 0.003	25,000	210	0.001 ~ 0.002						
10	34,000	410	0.002 ~ 0.004	29,000	320	0.001 ~ 0.003	26,000	250	0.001 ~ 0.003	25,000	210	0.001 ~ 0.002						
2006	R0.3	1	58,000	1,510	0.025 ~ 0.042	46,000	1,080	0.022 ~ 0.037	39,000	810	0.019 ~ 0.033	28,000	520	0.016 ~ 0.027				
		1.5	58,000	1,510	0.025 ~ 0.042	46,000	1,080	0.022 ~ 0.037	39,000	810	0.019 ~ 0.033	28,000	520	0.016 ~ 0.027				
		2	58,000	1,400	0.019 ~ 0.033	46,000	990	0.018 ~ 0.03	39,000	750	0.015 ~ 0.026	28,000	480	0.012 ~ 0.021				
		2.5	58,000	1,400	0.019 ~ 0.033	46,000	990	0.018 ~ 0.03	39,000	750	0.015 ~ 0.026	28,000	480	0.012 ~ 0.021				
		3	58,000	1,400	0.019 ~ 0.033	46,000	990	0.018 ~ 0.03	39,000	750	0.015 ~ 0.026	28,000	480	0.012 ~ 0.021				
		3.5	51,000	1,020	0.014 ~ 0.024	40,000	720	0.012 ~ 0.021	33,000	540	0.011 ~ 0.019	24,000	340	0.009 ~ 0.015				
		4	51,000	1,020	0.014 ~ 0.024	40,000	720	0.012 ~ 0.021	33,000	540	0.011 ~ 0.019	24,000	340	0.009 ~ 0.015				
		4.5	51,000	1,020	0.014 ~ 0.024	40,000	720	0.012 ~ 0.021	33,000	540	0.011 ~ 0.019	24,000	340	0.009 ~ 0.015				
		5	43,000	870	0.009 ~ 0.015	33,000	600	0.007 ~ 0.013	26,000	410	0.007 ~ 0.012	24,000	330	0.005 ~ 0.009				
		5.5	43,000	870	0.009 ~ 0.015	33,000	600	0.007 ~ 0.013	26,000	410	0.007 ~ 0.012	24,000	330	0.005 ~ 0.009				
		6	43,000	870	0.009 ~ 0.015	33,000	600	0.007 ~ 0.013	26,000	410	0.007 ~ 0.012	24,000	330	0.005 ~ 0.009				
		6.5	28,000	510	0.007 ~ 0.012	24,000	400	0.006 ~ 0.01	22,000	320	0.005 ~ 0.009	21,000	260	0.004 ~ 0.007				
		7	28,000	510	0.007 ~ 0.012	24,000	400	0.006 ~ 0.01	22,000	320	0.005 ~ 0.009	21,000	260	0.004 ~ 0.007				
7.5	28,000	510	0.007 ~ 0.012	24,000	400	0.006 ~ 0.01	22,000	320	0.005 ~ 0.009	21,000	260	0.004 ~ 0.007						

Материал			Углеродистые стали S45C · S50C (~ 225HB)				Легированные стали SK · SCM · SUS (225 ~ 325HB)				Упрочненные, Закаленные стали NAK · SKD (30 ~ 45HRC)			Закаленные стали SKD11 · 61 · SKT (45 ~ 50HRC)		
			Vc = 50 ~ 65m/min				Vc = 40 ~ 55m/min				Vc = 30 ~ 50m/min			Vc = 30 ~ 40m/min		
			a_p				a_p				a_p			a_p		
			(mm)	(mm)	(min ⁻¹)	(mm/min)	(mm)	(min ⁻¹)	(mm/min)	(mm)	(min ⁻¹)	(mm/min)	(mm)	(min ⁻¹)	(mm/min)	(mm)
2006	R0.3	8	28,000	510	0.005 ~ 0.009	24,000	400	0.004 ~ 0.008	22,000	320	0.004 ~ 0.007	21,000	260	0.003 ~ 0.005		
		8.5	28,000	510	0.005 ~ 0.009	24,000	400	0.004 ~ 0.008	22,000	320	0.004 ~ 0.007	21,000	260	0.003 ~ 0.005		
		9	28,000	510	0.005 ~ 0.009	24,000	400	0.004 ~ 0.008	22,000	320	0.004 ~ 0.007	21,000	260	0.003 ~ 0.005		
		9.5	28,000	510	0.005 ~ 0.009	24,000	400	0.004 ~ 0.008	22,000	320	0.004 ~ 0.007	21,000	260	0.003 ~ 0.005		
		10	28,000	440	0.003 ~ 0.005	24,000	350	0.002 ~ 0.004	22,000	270	0.002 ~ 0.004	21,000	230	0.001 ~ 0.003		
		11	28,000	440	0.003 ~ 0.005	24,000	350	0.002 ~ 0.004	22,000	270	0.002 ~ 0.004	21,000	230	0.001 ~ 0.003		
		12	28,000	440	0.003 ~ 0.005	24,000	350	0.002 ~ 0.004	22,000	270	0.002 ~ 0.004	21,000	230	0.001 ~ 0.003		
2008	R0.4	2	52,000	1,870	0.033 ~ 0.056	38,000	1,230	0.03 ~ 0.05	30,000	870	0.026 ~ 0.044	21,000	540	0.021 ~ 0.036		
		3	52,000	1,690	0.026 ~ 0.044	38,000	1,110	0.024 ~ 0.04	30,000	780	0.021 ~ 0.035	21,000	480	0.017 ~ 0.029		
		4	52,000	1,690	0.026 ~ 0.044	38,000	1,110	0.024 ~ 0.04	30,000	780	0.021 ~ 0.035	21,000	480	0.017 ~ 0.029		
		5	44,000	1,280	0.019 ~ 0.032	33,000	860	0.016 ~ 0.028	25,000	580	0.015 ~ 0.025	18,000	360	0.012 ~ 0.02		
		6	44,000	1,280	0.019 ~ 0.032	33,000	860	0.016 ~ 0.028	25,000	580	0.015 ~ 0.025	18,000	360	0.012 ~ 0.02		
		7	32,000	940	0.012 ~ 0.02	25,000	640	0.01 ~ 0.018	19,000	440	0.009 ~ 0.016	18,000	360	0.007 ~ 0.013		
		8	32,000	940	0.012 ~ 0.02	25,000	640	0.01 ~ 0.018	19,000	440	0.009 ~ 0.016	18,000	360	0.007 ~ 0.013		
		9	21,000	540	0.009 ~ 0.016	18,000	420	0.008 ~ 0.014	16,000	330	0.007 ~ 0.012	15,000	270	0.006 ~ 0.01		
		10	21,000	540	0.009 ~ 0.016	18,000	420	0.008 ~ 0.014	16,000	330	0.007 ~ 0.012	15,000	270	0.006 ~ 0.01		
2010	R0.5	2.5	41,000	1,660	0.037 ~ 0.063	30,000	1,100	0.033 ~ 0.056	24,000	770	0.03 ~ 0.05	17,000	480	0.024 ~ 0.04		
		3	41,000	1,660	0.037 ~ 0.063	30,000	1,100	0.033 ~ 0.056	24,000	770	0.03 ~ 0.05	17,000	480	0.024 ~ 0.04		
		4	41,000	1,660	0.03 ~ 0.05	30,000	1,100	0.027 ~ 0.045	24,000	770	0.024 ~ 0.04	17,000	480	0.019 ~ 0.032		
		5	41,000	1,660	0.03 ~ 0.05	30,000	1,100	0.027 ~ 0.045	24,000	770	0.024 ~ 0.04	17,000	480	0.019 ~ 0.032		
		6	35,000	1,250	0.021 ~ 0.036	26,000	840	0.019 ~ 0.032	20,000	570	0.016 ~ 0.028	14,000	360	0.013 ~ 0.023		
		7	35,000	1,250	0.021 ~ 0.036	26,000	840	0.019 ~ 0.032	20,000	570	0.016 ~ 0.028	14,000	360	0.013 ~ 0.023		
		8	35,000	1,250	0.021 ~ 0.036	26,000	840	0.019 ~ 0.032	20,000	570	0.016 ~ 0.028	14,000	360	0.013 ~ 0.023		
		9	26,000	920	0.013 ~ 0.022	20,000	630	0.012 ~ 0.02	15,000	430	0.01 ~ 0.018	14,000	340	0.008 ~ 0.014		
		10	26,000	920	0.013 ~ 0.022	20,000	630	0.012 ~ 0.02	15,000	430	0.01 ~ 0.018	14,000	340	0.008 ~ 0.014		
		12	17,000	550	0.01 ~ 0.018	14,000	430	0.009 ~ 0.016	13,000	340	0.008 ~ 0.014	12,000	280	0.006 ~ 0.011		
		14	17,000	530	0.007 ~ 0.013	14,000	410	0.007 ~ 0.012	13,000	330	0.006 ~ 0.01	12,000	270	0.004 ~ 0.008		
		16	17,000	530	0.007 ~ 0.013	14,000	410	0.007 ~ 0.012	13,000	330	0.006 ~ 0.01	12,000	270	0.004 ~ 0.008		
		18	17,000	450	0.005 ~ 0.009	14,000	350	0.004 ~ 0.008	13,000	280	0.004 ~ 0.007	12,000	230	0.003 ~ 0.005		
		20	17,000	450	0.005 ~ 0.009	14,000	350	0.004 ~ 0.008	13,000	280	0.004 ~ 0.007	12,000	230	0.003 ~ 0.005		
2012	R0.6	6	34,000	1,660	0.036 ~ 0.06	25,000	1,100	0.032 ~ 0.054	20,000	770	0.028 ~ 0.048	14,000	480	0.023 ~ 0.039		
		8	29,000	1,240	0.025 ~ 0.043	22,000	840	0.022 ~ 0.038	16,000	570	0.02 ~ 0.034	12,000	350	0.016 ~ 0.028		
		10	21,000	900	0.016 ~ 0.027	16,000	620	0.014 ~ 0.024	13,000	430	0.012 ~ 0.021	12,000	340	0.01 ~ 0.017		
		12	21,000	900	0.016 ~ 0.027	16,000	620	0.014 ~ 0.024	13,000	430	0.012 ~ 0.021	12,000	340	0.01 ~ 0.017		



Материал			Углеродистые стали S45C · S50C (~ 225HB)			Легированные стали SK · SCM · SUS (225 ~ 325HB)			Упрочненные, Закаленные стали NAK · SKD (30 ~ 45HRC)			Закаленные стали SKD11 · 61 · SKT (45 ~ 50HRC)		
			Vc = 50 ~ 65m/min			Vc = 40 ~ 55m/min			Vc = 30 ~ 50m/min			Vc = 30 ~ 40m/min		
Модель	Рабоч. радиус (mm)	Длина рабочей части (mm)	Обор. (min ⁻¹)	Подача (mm/min)	a _р Осевая глубина (mm)	Обор. (min ⁻¹)	Подача (mm/min)	a _р Осевая глубина (mm)	Обор. (min ⁻¹)	Подача (mm/min)	a _р Осевая глубина (mm)	Обор. (min ⁻¹)	Подача (mm/min)	a _р Осевая глубина (mm)
2012	R0.6	14	14,000	480	0.013 ~ 0.022	12,000	380	0.011 ~ 0.019	11,000	300	0.01 ~ 0.017	10,000	250	0.008 ~ 0.014
		16	14,000	480	0.008 ~ 0.014	12,000	380	0.007 ~ 0.012	11,000	300	0.006 ~ 0.011	10,000	250	0.005 ~ 0.009
		18	14,000	480	0.008 ~ 0.014	12,000	380	0.007 ~ 0.012	11,000	300	0.006 ~ 0.011	10,000	250	0.005 ~ 0.009
		20	14,000	450	0.005 ~ 0.009	12,000	350	0.004 ~ 0.008	11,000	280	0.004 ~ 0.007	10,000	230	0.003 ~ 0.005
2014	R0.7	8	25,000	1,220	0.03 ~ 0.05	19,000	820	0.027 ~ 0.045	14,000	550	0.024 ~ 0.04	10,000	350	0.019 ~ 0.032
		12	18,000	900	0.019 ~ 0.032	14,000	620	0.016 ~ 0.028	11,000	430	0.015 ~ 0.025	10,000	340	0.012 ~ 0.02
		16	12,000	510	0.015 ~ 0.025	10,000	400	0.013 ~ 0.023	9,500	320	0.012 ~ 0.02	9,000	260	0.009 ~ 0.016
2015	R0.75	3	27,000	1,830	0.052 ~ 0.087	20,000	1,210	0.046 ~ 0.078	16,000	850	0.042 ~ 0.07	11,000	530	0.033 ~ 0.056
		4	27,000	1,830	0.052 ~ 0.087	20,000	1,210	0.046 ~ 0.078	16,000	850	0.042 ~ 0.07	11,000	530	0.033 ~ 0.056
		6	27,000	1,650	0.045 ~ 0.075	20,000	1,090	0.04 ~ 0.067	16,000	760	0.036 ~ 0.06	11,000	470	0.028 ~ 0.048
		8	23,000	1,250	0.032 ~ 0.054	17,000	840	0.028 ~ 0.048	13,000	570	0.025 ~ 0.043	9,700	360	0.021 ~ 0.035
		10	23,000	1,250	0.032 ~ 0.054	17,000	840	0.028 ~ 0.048	13,000	570	0.025 ~ 0.043	9,700	360	0.021 ~ 0.035
		12	23,000	1,250	0.032 ~ 0.054	17,000	840	0.028 ~ 0.048	13,000	570	0.025 ~ 0.043	9,700	360	0.021 ~ 0.035
		14	17,000	910	0.02 ~ 0.034	13,000	630	0.018 ~ 0.03	10,000	430	0.016 ~ 0.027	9,500	350	0.013 ~ 0.022
		16	11,000	510	0.016 ~ 0.027	9,900	400	0.014 ~ 0.024	9,000	320	0.012 ~ 0.021	8,400	260	0.01 ~ 0.017
		18	11,000	510	0.016 ~ 0.027	9,900	400	0.014 ~ 0.024	9,000	320	0.012 ~ 0.021	8,400	260	0.01 ~ 0.017
		20	11,000	510	0.009 ~ 0.015	9,900	400	0.007 ~ 0.013	9,000	320	0.007 ~ 0.012	8,400	260	0.005 ~ 0.009
2016	R0.8	8	26,000	1,640	0.048 ~ 0.08	19,000	1,080	0.043 ~ 0.072	15,000	760	0.038 ~ 0.064	10,000	470	0.031 ~ 0.052
		12	22,000	1,240	0.034 ~ 0.057	16,000	840	0.03 ~ 0.051	12,000	570	0.027 ~ 0.046	9,100	350	0.022 ~ 0.037
		16	16,000	910	0.021 ~ 0.036	12,000	630	0.019 ~ 0.032	9,700	430	0.016 ~ 0.028	9,000	350	0.013 ~ 0.023
		20	10,000	520	0.016 ~ 0.028	9,300	410	0.015 ~ 0.025	8,300	320	0.013 ~ 0.023	7,900	270	0.01 ~ 0.018
2018	R0.9	8	23,000	1,620	0.05 ~ 0.084	16,000	1,070	0.045 ~ 0.076	13,000	750	0.04 ~ 0.067	9,500	460	0.033 ~ 0.055
		12	19,000	1,230	0.036 ~ 0.061	14,000	830	0.033 ~ 0.055	11,000	560	0.028 ~ 0.048	8,100	350	0.023 ~ 0.039
		16	14,000	900	0.022 ~ 0.037	11,000	620	0.02 ~ 0.034	8,600	430	0.018 ~ 0.03	7,900	340	0.014 ~ 0.024
		20	9,500	520	0.018 ~ 0.03	8,300	400	0.016 ~ 0.027	7,400	320	0.014 ~ 0.024	7,000	270	0.011 ~ 0.019
2020	R1	3	20,000	1,780	0.067 ~ 0.112	15,000	1,170	0.06 ~ 0.1	12,000	830	0.053 ~ 0.089	8,500	510	0.043 ~ 0.072
		4	20,000	1,780	0.067 ~ 0.112	15,000	1,170	0.06 ~ 0.1	12,000	830	0.053 ~ 0.089	8,500	510	0.043 ~ 0.072
		6	20,000	1,780	0.067 ~ 0.112	15,000	1,170	0.06 ~ 0.1	12,000	830	0.053 ~ 0.089	8,500	510	0.043 ~ 0.072
		8	20,000	1,600	0.053 ~ 0.089	15,000	1,060	0.048 ~ 0.08	12,000	740	0.042 ~ 0.071	8,500	460	0.034 ~ 0.058
		10	20,000	1,600	0.053 ~ 0.089	15,000	1,060	0.048 ~ 0.08	12,000	740	0.042 ~ 0.071	8,500	460	0.034 ~ 0.058
		12	17,000	1,220	0.038 ~ 0.064	13,000	820	0.034 ~ 0.057	10,000	550	0.03 ~ 0.051	7,300	350	0.024 ~ 0.041
		14	17,000	1,220	0.038 ~ 0.064	13,000	820	0.034 ~ 0.057	10,000	550	0.03 ~ 0.051	7,300	350	0.024 ~ 0.041
		16	17,000	1,220	0.038 ~ 0.064	13,000	820	0.034 ~ 0.057	10,000	550	0.03 ~ 0.051	7,300	350	0.024 ~ 0.041

