



Размер D 0,2-6

# HLRS • HLRS-E



22 новых моделей

Обрабатываемый материал ( наиболее подходящий, подходящий)

Материал									Рекомендуемое охлаждение — Подходящее охлаждение	
Углеродистые стали S45C S55C	Легированные стали SK-SCM SUS	Упрочненные стали NAK HPM	Закаленные стали			Чугун	Алюминиевые сплавы	Графит		Медь
			(~55HRC)	(~60HRC)	(~65HRC)					
									*1	

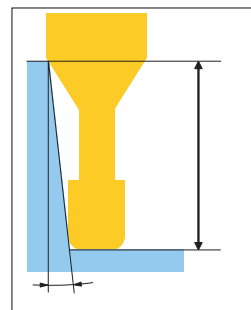
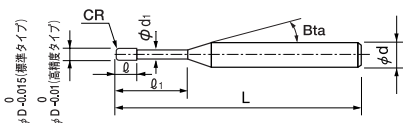
Воздушное /масленный туман  
— Водная эмульсия /масло

\*1 Рекомендуется масло или водная эмульсия для фрезерования Меди

Общее количество моделей 245

Ед.изм. (мм)

Модель	Рабочий диаметр	Радиус угла	Длина рабочей части	Длина режущей части	Диаметр шейки	Угол конуса	Общая длина	Диаметр хвостов.	Цена
	D	CR	ℓ <sub>1</sub>	ℓ	φ d <sub>1</sub>	β/α	L	d	
HLRS 2002-005-005 E	0.2	R0.05	0.5	0.2	0.17	16°	50	4	
HLRS 2002-005-010 E			1				50	4	
HLRS 2003-005-010 E	0.3	R0.05	1	0.3	0.27	16°	50	4	
HLRS 2003-005-020 E			2				50	4	
HLRS 2004-005-010 E	0.4	R0.05	1	0.4	0.38	16°	50	4	
HLRS 2004-005-015 E			1.5				50	4	
HLRS 2004-005-020 E			2				50	4	
HLRS 2004-005-030 E			3				50	4	
HLRS 2004-005-040 E			4				50	4	
HLRS 2004-01-010			1				50	4	
HLRS 2004-01-015		1.5	50				4		
HLRS 2004-01-020		R0.1	2				50	4	
HLRS 2004-01-030			3				50	4	
HLRS 2004-01-040			4				50	4	
HLRS 2005-01-010	1		50	4					
HLRS 2005-01-020	0.5	R0.1	2	0.5	0.48	16°	50	4	
HLRS 2005-01-030			3				50	4	
HLRS 2005-01-040			4				50	4	
HLRS 2005-01-050			5				50	4	
HLRS 2005-01-060			6				50	4	
HLRS 2006-01-020			0.6				R0.1	2	0.6
HLRS 2006-01-020 E	2	50		4					
HLRS 2006-01-030	3	50		4					
HLRS 2006-01-030 E	3	50		4					
HLRS 2006-01-040	4	50		4					
HLRS 2006-01-040 E	4	50		4					
HLRS 2006-01-060	6	50		4					
HLRS 2006-01-080	8	50		4					



	0/-0.015	±0.005 ±0.005
	0/-0.01	±0.005 ±0.005

Модель	Рабочий диаметр D	Радиус угла CR	Длина раб. части ℓ <sub>1</sub>	Длина раб. части при различных углах наклона				
				30'	1°	1°30'	2°	3°
				HLRS 2002-005-005 E	0.2	R0.05	0.5	0.65
HLRS 2002-005-010 E	1	1.25	1.43	1.58			1.71	1.94
HLRS 2003-005-010 E	0.3	R0.05	1	1.25	1.43	1.58	1.71	1.94
HLRS 2003-005-020 E			2	2.38	2.61	2.79	2.95	3.22
HLRS 2004-005-010 E	0.4	R0.05	1	1.25	1.43	1.58	1.71	1.94
HLRS 2004-005-015 E			1.5	1.82	2.03	2.19	2.34	2.59
HLRS 2004-005-020 E			2	2.38	2.61	2.79	2.95	3.22
HLRS 2004-005-030 E			3	3.48	3.74	3.95	4.13	4.30
HLRS 2004-005-040 E			4	4.56	4.85	5.08	5.28	5.67
HLRS 2004-01-010			R0.1	1	1.24	1.42	1.57	1.69
HLRS 2004-01-015		1.5		1.81	2.02	2.18	2.32	2.57
HLRS 2004-01-020		2		2.37	2.60	2.78	2.93	3.20
HLRS 2004-01-030		3		3.47	3.73	3.94	4.11	4.28
HLRS 2004-01-040		4	4.55	4.84	5.07	5.26	5.65	
HLRS 2005-01-010	0.5	R0.1	1	1.24	1.42	1.57	1.69	1.92
HLRS 2005-01-020			2	2.37	2.60	2.78	2.93	3.20
HLRS 2005-01-030			3	3.47	3.73	3.94	4.11	4.28
HLRS 2005-01-040			4	4.55	4.84	5.07	5.26	5.65
HLRS 2005-01-050			5	5.62	5.94	6.19	6.40	6.88
HLRS 2005-01-060			6	6.68	7.03	7.30	7.54	8.10
HLRS 2006-01-020	0.6	R0.1	2	2.37	2.60	2.78	2.93	3.20
HLRS 2006-01-020 E				2.37	2.60	2.78	2.93	3.20
HLRS 2006-01-030		3	3.47	3.73	3.94	4.11	4.28	
HLRS 2006-01-030 E			3.47	3.73	3.94	4.11	4.28	
HLRS 2006-01-040		4	4.55	4.84	5.07	5.26	5.65	
HLRS 2006-01-040 E			4.55	4.84	5.07	5.26	5.65	
HLRS 2006-01-060		6	6.68	7.03	7.30	7.54	8.10	
HLRS 2006-01-080		8	8.79	9.18	9.50	9.82	10.55	

Обозначение новой модели

Модель	Рабочий диаметр D	Радиус угла CR	Длина рабочей части $l_1$	Длина режущей части $l$	Диаметр шейки $\phi d_1$	Угол конуса Bта	Общая длина L	Диаметр хвостов. d	Цена	
HLRS 2007-01-040	0.7	R0.1	4	0.7	0.68	16 °	50	4		
HLRS 2007-01-060			6				50	4		
HLRS 2008-01-040	0.8	R0.1	4	0.8	0.78	16 °	50	4		
HLRS 2008-01-060			6				50	4		
HLRS 2008-02-040		R0.2	4				50	4		
HLRS 2008-02-060			6				50	4		
HLRS 2010-01-020	1	R0.1	2	1	0.95	16 °	50	4		
HLRS 2010-01-020 E			50				4			
HLRS 2010-01-040			4				50	4		
HLRS 2010-01-040 E			50				4			
HLRS 2010-01-060			6				50	4		
HLRS 2010-01-060 E			50				4			
HLRS 2010-01-080			8				50	4		
HLRS 2010-01-100			10				50	4		
HLRS 2010-01-120			12				55	4		
HLRS 2010-01-160			16				60	4		
HLRS 2010-01-200			20				60	4		
HLRS 2010-02-020			R0.2				2	50	4	
HLRS 2010-02-020 E							50	4		
HLRS 2010-02-040							4	50	4	
HLRS 2010-02-040 E		50					4			
HLRS 2010-02-060		6					50	4		
HLRS 2010-02-060 E		50					4			
HLRS 2010-02-080		8					50	4		
HLRS 2010-02-100		10					50	4		
HLRS 2010-02-120		12					55	4		
HLRS 2010-02-160		16					60	4		
HLRS 2010-02-200		20					60	4		
HLRS 2010-03-020		R0.3					2	50	4	
HLRS 2010-03-020 E							50	4		
HLRS 2010-03-040							4	50	4	
HLRS 2010-03-040 E			50				4			
HLRS 2010-03-060			6				50	4		
HLRS 2010-03-060 E			50				4			
HLRS 2010-03-080			8				50	4		
HLRS 2010-03-100			10				50	4		
HLRS 2010-03-120			12				55	4		
HLRS 2010-03-160			16				60	4		
HLRS 2010-03-200		20	60				4			
HLRS 2012-02-060		1.2	R0.2				6	1.2	1.14	16 °
HLRS 2012-02-120	12			55	4					
HLRS 2012-02-200	20			60	4					
HLRS 2012-03-060	R0.3		6	50	4					
HLRS 2012-03-120			12	55	4					
HLRS 2012-03-200			20	60	4					



Модель	Рабочий диаметр D	Радиус угла CR	Длина раб. части $l_1$	Длина раб. части при различных углах наклона					
				30'	1°	1°30'	2°	3°	
HLRS 2007-01-040	0.7	R0.1	4	4.55	4.84	5.07	5.26	5.65	
HLRS 2007-01-060			6	6.68	7.03	7.30	7.54	8.10	
HLRS 2008-01-040	0.8	R0.1	4	4.55	4.84	5.07	5.26	5.65	
HLRS 2008-01-060			6	6.68	7.03	7.30	7.54	8.10	
HLRS 2008-02-040		R0.2	4	4.53	4.82	5.05	5.23	5.61	
HLRS 2008-02-060			6	6.66	7.01	7.28	7.51	8.06	
HLRS 2010-01-020	1	R0.1	2	2.53	2.71	2.88	3.01	3.27	
HLRS 2010-01-020 E				2.53	2.71	2.88	3.01	3.27	
HLRS 2010-01-040			4	4.67	4.93	5.14	5.33	5.72	
HLRS 2010-01-040 E				4.67	4.93	5.14	5.33	5.72	
HLRS 2010-01-060			6	6.78	7.10	7.36	7.60	8.17	
HLRS 2010-01-060 E				6.78	7.10	7.36	7.60	8.17	
HLRS 2010-01-080			8	8.88	9.24	9.56	9.88	10.61	
HLRS 2010-01-100			10	10.97	11.37	11.76	12.16	13.06	
HLRS 2010-01-120			12	13.05	13.50	13.96	14.44	15.51	
HLRS 2010-01-160			16	17.20	17.76	18.36	18.99	20.40	
HLRS 2010-01-200			20	21.33	22.02	22.76	23.54	25.30	
HLRS 2010-02-020			R0.2	2	2.51	2.69	2.86	2.98	3.23
HLRS 2010-02-020 E					2.51	2.69	2.86	2.98	3.23
HLRS 2010-02-040				4	4.65	4.91	5.12	5.30	5.68
HLRS 2010-02-040 E		4.65			4.91	5.12	5.30	5.68	
HLRS 2010-02-060		6		6.76	7.08	7.34	7.57	8.13	
HLRS 2010-02-060 E				6.76	7.08	7.34	7.57	8.13	
HLRS 2010-02-080		8		8.86	9.22	9.54	9.85	10.57	
HLRS 2010-02-100		10		10.95	11.35	11.74	12.13	13.02	
HLRS 2010-02-120		12		13.03	13.48	13.94	14.41	15.47	
HLRS 2010-02-160		16		17.18	17.74	18.34	18.96	20.36	
HLRS 2010-02-200		20		21.31	22.00	22.74	23.51	25.26	
HLRS 2010-03-020		R0.3		2	2.49	2.67	2.84	2.95	3.19
HLRS 2010-03-020 E					2.49	2.67	2.84	2.95	3.19
HLRS 2010-03-040				4	4.63	4.89	5.10	5.27	5.64
HLRS 2010-03-040 E			4.63		4.89	5.10	5.27	5.64	
HLRS 2010-03-060			6	6.74	7.06	7.32	7.54	8.09	
HLRS 2010-03-060 E				6.74	7.06	7.32	7.54	8.09	
HLRS 2010-03-080			8	8.84	9.20	9.52	9.82	10.53	
HLRS 2010-03-100			10	10.93	11.33	11.72	12.10	12.98	
HLRS 2010-03-120			12	13.01	13.46	13.92	14.38	15.43	
HLRS 2010-03-160			16	17.16	17.72	18.32	18.93	20.32	
HLRS 2010-03-200			20	21.29	21.98	22.72	23.48	25.22	
HLRS 2012-02-060			1.2	R0.2	6	6.18	6.38	6.59	6.82
HLRS 2012-02-120	12				12.37	12.77	13.19	13.65	14.67
HLRS 2012-02-200	20				20.62	21.29	22.00	22.76	24.46
HLRS 2012-03-060	R0.3	6		6.18	6.38	6.59	6.81	7.31	
HLRS 2012-03-120		12		12.37	12.77	13.19	13.64	14.66	
HLRS 2012-03-200		20		20.62	21.28	21.99	22.75	24.45	

Модель	Рабочий диаметр	Радиус угла	Длина рабочей части	Длина режущей части	Диаметр шейки	Угол конуса	Общая длина	Диаметр хвостов.	Цена
	D	CR	$\ell_1$	$\ell$	$\phi_{d1}$	$\beta_{та}$	L	d	
HLRS 2015-02-040	1.5	R0.2	4	1.5	1.45	16°	50	4	
HLRS 2015-02-060			6				50	4	
HLRS 2015-02-080			8				50	4	
HLRS 2015-02-100			10				50	4	
HLRS 2015-02-120			12				55	4	
HLRS 2015-02-160			16				55	4	
HLRS 2015-02-200			20				60	4	
HLRS 2015-03-040		R0.3	4				50	4	
HLRS 2015-03-060			6				50	4	
HLRS 2015-03-080			8				50	4	
HLRS 2015-03-100			10				50	4	
HLRS 2015-03-120			12				55	4	
HLRS 2015-03-160			16				55	4	
HLRS 2015-03-200			20				60	4	
HLRS 2015-05-040		R0.5	4				50	4	
HLRS 2015-05-060			6				50	4	
HLRS 2015-05-080			8				50	4	
HLRS 2015-05-100			10				50	4	
HLRS 2015-05-120			12				55	4	
HLRS 2015-05-160			16				55	4	
HLRS 2015-05-200	20		60	4					
HLRS 2020-01-040	2	R0.1	4	2	1.92	16°	50	4	
HLRS 2020-01-040 E			50				4		
HLRS 2020-01-060			6				50	4	
HLRS 2020-01-060 E			50				4		
HLRS 2020-01-080			8				50	4	
HLRS 2020-01-080 E			50				4		
HLRS 2020-01-100			10				50	4	
HLRS 2020-01-100 E			50				4		
HLRS 2020-01-120			12				55	4	
HLRS 2020-01-120 E			55				4		
HLRS 2020-01-160			16				60	4	
HLRS 2020-01-200			20				60	4	
HLRS 2020-01-260			26				70	4	
HLRS 2020-02-040		R0.2	4				50	4	
HLRS 2020-02-040 E			50				4		
HLRS 2020-02-060			6				50	4	
HLRS 2020-02-060 E			50				4		
HLRS 2020-02-080			8				50	4	
HLRS 2020-02-080 E			50				4		
HLRS 2020-02-100			10				50	4	
HLRS 2020-02-100 E			50				4		
HLRS 2020-02-120			12				55	4	
HLRS 2020-02-120 E			55				4		
HLRS 2020-02-160			16				60	4	
HLRS 2020-02-200			20				60	4	
HLRS 2020-02-260			26				70	4	



Модель	Рабочий диаметр D	Радиус угла CR	Длина раб. части $l_1$	Длина раб. части при различных углах наклона				
				30°	1°	1°30'	2°	3°
HLRS 2015-02-040	1.5	R0.2	4	4.12	4.25	4.39	4.54	4.88
HLRS 2015-02-060			6	6.18	6.38	6.59	6.82	7.33
HLRS 2015-02-080			8	8.24	8.51	8.79	9.10	9.77
HLRS 2015-02-100			10	10.31	10.64	10.99	11.37	12.22
HLRS 2015-02-120			12	12.37	12.77	13.19	13.65	14.67
HLRS 2015-02-160			16	16.49	17.03	17.60	18.21	19.56
HLRS 2015-02-200			20	20.62	21.29	22.00	22.76	
HLRS 2015-03-040		R0.3	4	4.12	4.25	4.39	4.54	4.87
HLRS 2015-03-060			6	6.18	6.38	6.59	6.81	7.31
HLRS 2015-03-080			8	8.24	8.51	8.79	9.09	9.76
HLRS 2015-03-100			10	10.30	10.64	10.99	11.37	12.21
HLRS 2015-03-120			12	12.37	12.77	13.19	13.64	14.66
HLRS 2015-03-160			16	16.49	17.02	17.59	18.20	19.55
HLRS 2015-03-200			20	20.62	21.28	21.99	22.75	
HLRS 2015-05-040		R0.5	4	4.11	4.24	4.38	4.52	4.85
HLRS 2015-05-060			6	6.18	6.37	6.58	6.80	7.29
HLRS 2015-05-080			8	8.24	8.50	8.78	9.08	9.74
HLRS 2015-05-100			10	10.30	10.63	10.98	11.35	12.19
HLRS 2015-05-120			12	12.36	12.76	13.18	13.63	14.64
HLRS 2015-05-160			16	16.49	17.02	17.58	18.19	19.53
HLRS 2015-05-200	20		20.62	21.28	21.98	22.74	24.42	
HLRS 2020-01-040	2	R0.1	4	4.16	4.29	4.43	4.59	4.93
HLRS 2020-01-040 E				4.16	4.29	4.43	4.59	4.93
HLRS 2020-01-060			6	6.22	6.42	6.64	6.87	7.38
HLRS 2020-01-060 E				6.22	6.42	6.64	6.87	7.38
HLRS 2020-01-080			8	8.28	8.55	8.84	9.14	9.83
HLRS 2020-01-080 E				8.28	8.55	8.84	9.14	9.83
HLRS 2020-01-100			10	10.34	10.68	11.04	11.42	12.27
HLRS 2020-01-100 E				10.34	10.68	11.04	11.42	12.27
HLRS 2020-01-120			12	12.41	12.81	13.24	13.70	14.72
HLRS 2020-01-120 E				12.41	12.81	13.24	13.70	14.72
HLRS 2020-01-160		16	16.53	17.07	17.64	18.25		
HLRS 2020-01-200		20	20.66	21.33	22.04	22.81		
HLRS 2020-01-260		26	26.85	27.72	28.65			
HLRS 2020-02-040		R0.2	4	4.15	4.29	4.43	4.58	4.92
HLRS 2020-02-040 E				4.15	4.29	4.43	4.58	4.92
HLRS 2020-02-060			6	6.22	6.42	6.63	6.86	7.37
HLRS 2020-02-060 E				6.22	6.42	6.63	6.86	7.37
HLRS 2020-02-080			8	8.28	8.55	8.83	9.14	9.82
HLRS 2020-02-080 E				8.28	8.55	8.83	9.14	9.82
HLRS 2020-02-100			10	10.34	10.68	11.03	11.41	12.26
HLRS 2020-02-100 E				10.34	10.68	11.03	11.41	12.26
HLRS 2020-02-120			12	12.40	12.81	13.23	13.69	14.71
HLRS 2020-02-120 E				12.40	12.81	13.23	13.69	14.71
HLRS 2020-02-160			16	16.53	17.06	17.64	18.25	
HLRS 2020-02-200			20	20.66	21.32	22.04	22.80	
HLRS 2020-02-260			26	26.84	27.71	28.64		



Модель	Рабочий диаметр D	Радиус угла CR	Длина рабочей части $l_1$	Длина режущей части $l$	Диаметр шейки $\phi d_1$	Угол конуса $B_{\alpha}$	Общая длина L	Диаметр хвостов. d	Цена	
HLRS 2020-03-040	2	R0.3	4	2	1.92	16 °	50	4		
HLRS 2020-03-040 E							50	4		
HLRS 2020-03-060			6				50	4		
HLRS 2020-03-060 E							50	4		
HLRS 2020-03-080			8				50	4		
HLRS 2020-03-080 E							50	4		
HLRS 2020-03-100			10				50	4		
HLRS 2020-03-100 E							50	4		
HLRS 2020-03-120			12				55	4		
HLRS 2020-03-120 E							55	4		
HLRS 2020-03-160			16				60	4		
HLRS 2020-03-200							20	60	4	
HLRS 2020-03-260			26					70	4	
HLRS 2020-05-040							R0.5	4	50	4
HLRS 2020-05-040 E		50	4							
HLRS 2020-05-060		6	50					4		
HLRS 2020-05-060 E			50					4		
HLRS 2020-05-080		8	50					4		
HLRS 2020-05-080 E			50					4		
HLRS 2020-05-100		10	50					4		
HLRS 2020-05-100 E			50					4		
HLRS 2020-05-120		12	55					4		
HLRS 2020-05-120 E			55					4		
HLRS 2020-05-160		16	60					4		
HLRS 2020-05-200			20					60	4	
HLRS 2020-05-260		26						70	4	
HLRS 2025-03-100	2.5		R0.3	10	2.5	2.42		16 °	50	4
HLRS 2025-03-200		20		60			4			
HLRS 2025-03-300		30		70			4			
HLRS 2025-05-100		R0.5	10	50			4			
HLRS 2025-05-200			20	60			4			
HLRS 2025-05-300			30	70			4			
HLRS 2030-01-060	3	R0.1	6	3	2.92	16 °	55	6		
HLRS 2030-01-060 E							55	6		
HLRS 2030-01-160			16				60	6		
HLRS 2030-01-160 E							60	6		
HLRS 2030-01-260							26	70	6	
HLRS 2030-01-360								36	80	6
HLRS 2030-02-060		R0.2	6				55	6		
HLRS 2030-02-060 E							55	6		
HLRS 2030-02-160			16				60	6		
HLRS 2030-02-160 E							60	6		
HLRS 2030-02-260							26	70	6	
HLRS 2030-02-360								36	80	6



Модель	Рабочий диаметр D	Радиус угла CR	Длина раб. части ℓ <sub>1</sub>	Длина раб. части при различных углах наклона					
				30°	1°	1°30'	2°	3°	
HLRS 2020-03-040	2	R0.3	4	4.15	4.28	4.42	4.57	4.91	
HLRS 2020-03-040 E				4.15	4.28	4.42	4.57	4.91	
HLRS 2020-03-060			6	6.21	6.41	6.63	6.85	7.36	
HLRS 2020-03-060 E				6.21	6.41	6.63	6.85	7.36	
HLRS 2020-03-080			8	8.28	8.54	8.83	9.13	9.80	
HLRS 2020-03-080 E				8.28	8.54	8.83	9.13	9.80	
HLRS 2020-03-100			10	10.34	10.67	11.03	11.41	12.25	
HLRS 2020-03-100 E				10.34	10.67	11.03	11.41	12.25	
HLRS 2020-03-120			12	12.40	12.80	13.23	13.68	14.70	
HLRS 2020-03-120 E				12.40	12.80	13.23	13.68	14.70	
HLRS 2020-03-160			16	16.53	17.06	17.63	18.24	19.59	
HLRS 2020-03-200				20	20.65	21.32	22.03	22.79	
HLRS 2020-03-260			26	26.84	27.71	28.64			
HLRS 2020-05-040			2	R0.5	4	4.15	4.28	4.41	4.56
HLRS 2020-05-040 E		4.15				4.28	4.41	4.56	4.89
HLRS 2020-05-060		6			6.21	6.41	6.62	6.84	7.34
HLRS 2020-05-060 E					6.21	6.41	6.62	6.84	7.34
HLRS 2020-05-080		8			8.27	8.54	8.82	9.12	9.78
HLRS 2020-05-080 E					8.27	8.54	8.82	9.12	9.78
HLRS 2020-05-100		10			10.34	10.67	11.02	11.39	12.23
HLRS 2020-05-100 E					10.34	10.67	11.02	11.39	12.23
HLRS 2020-05-120		12			12.40	12.80	13.22	13.67	14.68
HLRS 2020-05-120 E					12.40	12.80	13.22	13.67	14.68
HLRS 2020-05-160		16			16.53	17.06	17.62	18.23	19.57
HLRS 2020-05-200					20	20.65	21.31	22.02	22.78
HLRS 2020-05-260		26			26.84	27.70	28.63		
HLRS 2025-03-100	2.5	R0.3			10	10.34	10.67	11.03	11.41
HLRS 2025-03-200			20	20.65	21.32	22.03			
HLRS 2025-03-300			30	30.97	31.97				
HLRS 2025-05-100		R0.5	10	10.34	10.67	11.02	11.39	12.23	
HLRS 2025-05-200			20	20.65	21.31	22.02			
HLRS 2025-05-300			30	30.97	31.96				
HLRS 2030-01-060	3	R0.1	6	6.21	6.42	6.63	6.86	7.37	
HLRS 2030-01-060 E				6.21	6.42	6.63	6.86	7.37	
HLRS 2030-01-160			16	16.53	17.06	17.64	18.25	19.61	
HLRS 2030-01-160 E				16.53	17.06	17.64	18.25	19.61	
HLRS 2030-01-260			26	26.84	27.71	28.64	29.64		
HLRS 2030-01-360				36	37.16	38.36	39.65	41.02	
HLRS 2030-02-060		3	R0.2	6	6.21	6.41	6.63	6.85	7.36
HLRS 2030-02-060 E					6.21	6.41	6.63	6.85	7.36
HLRS 2030-02-160				16	16.53	17.06	17.63	18.24	19.60
HLRS 2030-02-160 E					16.53	17.06	17.63	18.24	19.60
HLRS 2030-02-260				26	26.84	27.71	28.64	29.63	
HLRS 2030-02-360					36	37.15	38.36	39.64	41.02





Модель	Рабочий диаметр	Радиус угла	Длина рабочей части	Длина режущей части	Диаметр шейки	Угол конуса	Общая длина	Диаметр хвостов.	Цена
	D	CR	ℓ <sub>1</sub>	ℓ	φ <sub>d1</sub>	β <sub>та</sub>	L	d	
HLRS 2030-03-060	3	R 0.3	6	3	2.92	16 °	55	6	
HLRS 2030-03-060 E			55				6		
HLRS 2030-03-160			60				6		
HLRS 2030-03-160 E			60				6		
HLRS 2030-03-260			70				6		
HLRS 2030-03-360			80				6		
HLRS 2030-05-060		R 0.5	6				55	6	
HLRS 2030-05-060 E			55				6		
HLRS 2030-05-160			60				6		
HLRS 2030-05-160 E			60				6		
HLRS 2030-05-260			70				6		
HLRS 2030-05-360			80				6		
HLRS 2030-10-060		R 1	6				55	6	
HLRS 2030-10-060 E			55				6		
HLRS 2030-10-160			60				6		
HLRS 2030-10-160 E			60				6		
HLRS 2030-10-260			70				6		
HLRS 2030-10-360			80				6		
HLRS 2040-01-080	4	R 0.1	8	4	3.82	16 °	65	6	
HLRS 2040-01-080 E			65				6		
HLRS 2040-01-200			65				6		
HLRS 2040-01-200 E			65				6		
HLRS 2040-01-320			80				6		
HLRS 2040-01-480			100				6		
HLRS 2040-02-080		R 0.2	8				65	6	
HLRS 2040-02-080 E			65				6		
HLRS 2040-02-200			65				6		
HLRS 2040-02-200 E			65				6		
HLRS 2040-02-320			80				6		
HLRS 2040-02-480			100				6		
HLRS 2040-03-080		R 0.3	8				65	6	
HLRS 2040-03-080 E			65				6		
HLRS 2040-03-200			65				6		
HLRS 2040-03-200 E			65				6		
HLRS 2040-03-320			80				6		
HLRS 2040-03-480			100				6		
HLRS 2040-05-080		R 0.5	8				65	6	
HLRS 2040-05-080 E			65				6		
HLRS 2040-05-200			65				6		
HLRS 2040-05-200 E			65				6		
HLRS 2040-05-320			80				6		
HLRS 2040-05-480			100				6		

Модель	Рабочий диаметр	Радиус угла	Длина раб. части	Длина раб. части при различных углах наклона				
				30°	1°	1°30'	2°	3°
HLRS 2030-03-060	3	R0.3	6	6.21	6.41	6.62	6.85	7.35
HLRS 2030-03-060 E				6.21	6.41	6.62	6.85	7.35
HLRS 2030-03-160			16	16.53	17.06	17.63	18.23	19.59
HLRS 2030-03-160 E				16.53	17.06	17.63	18.23	19.59
HLRS 2030-03-260			26	26.84	27.71	28.63	29.62	
HLRS 2030-03-360			36	37.15	38.35	39.64	41.01	
HLRS 2030-05-060		R0.5	6	6.21	6.40	6.61	6.83	7.33
HLRS 2030-05-060 E				6.21	6.40	6.61	6.83	7.33
HLRS 2030-05-160			16	16.52	17.05	17.62	18.22	19.57
HLRS 2030-05-160 E				16.52	17.05	17.62	18.22	19.57
HLRS 2030-05-260			26	26.84	27.70	28.62	29.61	
HLRS 2030-05-360			36	37.15	38.35	39.63	41.00	
HLRS 2030-10-060		R1	6	6.20	6.39	6.59	6.80	7.28
HLRS 2030-10-060 E				6.20	6.39	6.59	6.80	7.28
HLRS 2030-10-160			16	16.51	17.04	17.59	18.19	19.52
HLRS 2030-10-160 E				16.51	17.04	17.59	18.19	19.52
HLRS 2030-10-260			26	26.83	27.68	28.60	29.57	
HLRS 2030-10-360			36	37.14	38.33	39.60	40.96	
HLRS 2040-01-080	4	R0.1	8	8.45	8.73	9.02	9.33	10.03
HLRS 2040-01-080 E				8.45	8.73	9.02	9.33	10.03
HLRS 2040-01-200			20	20.83	21.50	22.23	23.00	
HLRS 2040-01-200 E				20.83	21.50	22.23	23.00	
HLRS 2040-01-320			32	33.21	34.28	35.43		
HLRS 2040-01-480			48	49.71	51.32			
HLRS 2040-02-080		R0.2	8	8.45	8.72	9.01	9.33	10.02
HLRS 2040-02-080 E				8.45	8.72	9.01	9.33	10.02
HLRS 2040-02-200			20	20.83	21.50	22.22	22.99	
HLRS 2040-02-200 E				20.83	21.50	22.22	22.99	
HLRS 2040-02-320			32	33.20	34.28	35.43		
HLRS 2040-02-480			48	49.71	51.32			
HLRS 2040-03-080		R0.3	8	8.45	8.72	9.01	9.32	10.01
HLRS 2040-03-080 E				8.45	8.72	9.01	9.32	10.01
HLRS 2040-03-200			20	20.83	21.50	22.22	22.98	
HLRS 2040-03-200 E				20.83	21.50	22.22	22.98	
HLRS 2040-03-320			32	33.20	34.28	35.42		
HLRS 2040-03-480			48	49.71	51.31			
HLRS 2040-05-080	R0.5	8	8.45	8.71	9.00	9.31	9.99	
HLRS 2040-05-080 E			8.45	8.71	9.00	9.31	9.99	
HLRS 2040-05-200		20	20.82	21.49	22.21	22.97		
HLRS 2040-05-200 E			20.82	21.49	22.21	22.97		
HLRS 2040-05-320		32	33.20	34.27	35.41			
HLRS 2040-05-480		48	49.70	51.31				

Модель	Рабочий диаметр	Радиус угла	Длина рабочей части	Длина режущей части	Диаметр шейки	Угол конуса	Общая длина	Диаметр хвостов.	Цена				
	D	CR	$l_1$	$l$	$\phi d_1$	$\beta$ та	L	d					
HLRS 2040-10-080	4	R 1	8	4	3.82	16 °	65	6					
HLRS 2040-10-080 E							65	6					
HLRS 2040-10-200			20				65	6					
HLRS 2040-10-200 E							65	6					
HLRS 2040-10-320			32				80	6					
HLRS 2040-10-480			48				100	6					
HLRS 2050-02-200	5	R 0.2	20	5	4.82	16 °	70	6					
HLRS 2050-02-400			40				90	6					
HLRS 2050-03-200		R 0.3	20				70	6					
HLRS 2050-03-400			40				90	6					
HLRS 2050-05-200		R 0.5	20				70	6					
HLRS 2050-05-400			40				90	6					
HLRS 2050-10-200		R 1	20				70	6					
HLRS 2050-10-400			40				90	6					
HLRS 2060-01-120		6	R 0.1				12	6	5.82	—	65	6	
HLRS 2060-01-120 E											65	6	
HLRS 2060-01-300	30			100	6								
HLRS 2060-01-300 E				100	6								
HLRS 2060-01-600	60		120	6									
HLRS 2060-02-120	R 0.2		12	65	6								
HLRS 2060-02-120 E				65	6								
HLRS 2060-02-300			30	100	6								
HLRS 2060-02-300 E				100	6								
HLRS 2060-02-600	60		120	6									
HLRS 2060-03-120	R 0.3		12	65	6								
HLRS 2060-03-120 E				65	6								
HLRS 2060-03-300			30	100	6								
HLRS 2060-03-300 E				100	6								
HLRS 2060-03-600	60		120	6									
HLRS 2060-05-120	R 0.5		12	65	6								
HLRS 2060-05-120 E				65	6								
HLRS 2060-05-300			30	100	6								
HLRS 2060-05-300 E				100	6								
HLRS 2060-05-600	60		120	6									
HLRS 2060-10-120	R 1		12	65	6								
HLRS 2060-10-120 E				65	6								
HLRS 2060-10-300			30	100	6								
HLRS 2060-10-300 E				100	6								
HLRS 2060-10-600	60	120	6										

Модель	Рабочий диаметр D	Радиус угла CR	Длина раб. части ℓ1	Длина раб. части при различных углах наклона					
				30°	1°	1°30'	2°	3°	
HLRS 2040-10-080	4	R 1	8	8.44	8.70	8.98	9.27	9.93	
HLRS 2040-10-080 E				8.44	8.70	8.98	9.27	9.93	
HLRS 2040-10-200			20	20.82	21.48	22.18	22.94		
HLRS 2040-10-200 E				20.82	21.48	22.18	22.94		
HLRS 2040-10-320				32	33.19	34.25	35.39		
HLRS 2040-10-480				48	49.69	51.29			
HLRS 2050-02-200	5	R 0.2	20	20.83	21.50				
HLRS 2050-02-400			40	41.46					
HLRS 2050-03-200		R 0.3	20	20.83	21.50				
HLRS 2050-03-400			40	41.45					
HLRS 2050-05-200		R 0.5	20	20.82	21.49				
HLRS 2050-05-400			40	41.45					
HLRS 2050-10-200		R 1	20	20.82	21.48				
HLRS 2050-10-400			40	41.44					
HLRS 2060-01-120		6	R 0.1	12					
HLRS 2060-01-120 E				30					
HLRS 2060-01-300					60				
HLRS 2060-01-300 E			R 0.2	12					
HLRS 2060-02-120	30								
HLRS 2060-02-120 E				60					
HLRS 2060-02-300	R 0.3		12						
HLRS 2060-02-300 E			30						
HLRS 2060-02-600				60					
HLRS 2060-03-120	R 0.5		12						
HLRS 2060-03-120 E			30						
HLRS 2060-03-300				60					
HLRS 2060-03-300 E	R 1		12						
HLRS 2060-03-600			30						
HLRS 2060-05-120				60					
HLRS 2060-05-120 E	R 1		12						
HLRS 2060-05-300			30						
HLRS 2060-05-300 E				60					
HLRS 2060-05-600	R 1		12						
HLRS 2060-10-120			30						
HLRS 2060-10-120 E				60					
HLRS 2060-10-300	R 1		12						
HLRS 2060-10-300 E			30						
HLRS 2060-10-600				60					

## Режимы фрезерования для HRLS

Материал				Медь				Упрочненные Закаленные ст. NAK/SKD ( 30 ~ 45HRC )				Закаленные стали SKD/SKT ( 45 ~ 55HRC )				Закаленные стали SKD/SKH ( 55 ~ 65HRC )			
Модель	Раб. диаметр ( mm )	Общая длина ( mm )	L / D	Обор- оты ( min <sup>-1</sup> )	Подача ( mm/min )	Осевая глубина ( mm )	Радиал. глубина ( mm )	Обор- оты ( min <sup>-1</sup> )	Подача ( mm/min )	Осевая глубина ( mm )	Радиал. глубина ( mm )	Обор- оты ( min <sup>-1</sup> )	Подача ( mm/min )	Осевая глубина ( mm )	Радиал. глубина ( mm )	Обор- оты ( min <sup>-1</sup> )	Подача ( mm/min )	Осевая глубина ( mm )	Радиал. глубина ( mm )
2002	0.2	0.5	2.5	55,000	230	0.027	0.020	55,000	230	0.006	0.020	44,800	236	0.005	0.020	19,000	30	0.002	0.015
		1	5	55,000	200	0.027	0.020	55,000	200	0.006	0.020	35,000	150	0.004	0.020	15,000	25	0.0015	0.015
2003	0.3	1	3.3	60,000	500	0.030	0.020	60,000	500	0.007	0.020	35,000	350	0.005	0.020	22,000	35	0.004	0.015
		2	6.7	60,000	400	0.030	0.020	60,000	400	0.007	0.020	33,200	250	0.005	0.015	20,000	32	0.004	0.015
2004	0.4	1	2.5	50,900	610	0.048	0.063	50,900	510	0.013	0.072	40,700	370	0.011	0.072	24,200	40	0.004	0.072
		1.5	3.75	45,200	580	0.045	0.063	45,200	480	0.012	0.054	36,200	360	0.010	0.054	21,500	38	0.004	0.054
		2	5	40,400	540	0.042	0.054	40,400	450	0.011	0.045	32,300	330	0.009	0.045	19,200	35	0.004	0.045
		3	7.5	33,900	460	0.027	0.054	33,900	390	0.008	0.027	27,100	280	0.007	0.027	16,100	30	0.003	0.027
		4	10	30,000	220	0.010	0.045	30,000	340	0.006	0.014	24,000	250	0.005	0.014	14,300	27	0.002	0.014
2005	0.5	1	2	49,200	1,370	0.081	0.117	49,200	1,140	0.034	0.122	40,000	860	0.030	0.122	24,800	94	0.013	0.122
		2	4	39,900	1,000	0.075	0.108	39,900	830	0.029	0.117	32,500	630	0.026	0.117	20,100	68	0.011	0.117
		3	6	31,900	770	0.057	0.090	31,900	640	0.023	0.113	26,000	480	0.020	0.113	16,100	52	0.008	0.113
		4	8	29,100	660	0.039	0.072	29,100	550	0.016	0.108	23,700	410	0.014	0.108	14,600	45	0.006	0.108
		5	10	26,400	570	0.027	0.045	26,400	470	0.011	0.099	21,500	360	0.010	0.099	13,300	39	0.004	0.099
		6	12	24,200	480	0.021	0.018	24,200	400	0.007	0.090	19,700	300	0.006	0.090	12,200	33	0.003	0.090
2006	0.6	2	3.3	28,600	610	0.114	0.162	28,600	510	0.010	0.219	23,700	390	0.010	0.219	15,200	43	0.004	0.219
		3	5	23,800	480	0.090	0.135	23,800	400	0.008	0.108	19,700	300	0.007	0.108	12,600	33	0.003	0.108
		4	6.7	20,400	400	0.063	0.108	20,400	330	0.005	0.104	16,800	250	0.005	0.104	10,800	28	0.002	0.104
		6	10	16,800	300	0.036	0.045	16,800	250	0.003	0.099	13,900	190	0.003	0.099	8,900	21	0.001	0.099
		8	13.3	14,600	240	0.021	0.027	14,600	200	0.002	0.072	12,100	150	0.002	0.072	7,700	16	0.001	0.072
2007	0.7	4	5.7	18,400	480	0.087	0.162	18,400	400	0.008	0.117	15,500	310	0.008	0.117	10,200	35	0.004	0.117
		6	8.6	15,400	360	0.051	0.108	15,400	300	0.005	0.108	13,000	230	0.005	0.108	8,600	26	0.002	0.108
2008	0.8	4	5	17,500	540	0.132	0.198	17,500	450	0.014	0.117	15,000	360	0.015	0.117	10,200	41	0.007	0.117
		6	7.5	14,600	410	0.075	0.144	14,600	340	0.008	0.108	12,500	270	0.008	0.108	8,500	30	0.004	0.108
2010	1	2	2	17,600	1,100	0.210	0.450	17,600	920	0.035	0.270	15,300	750	0.040	0.270	10,900	89	0.020	0.270
		4	4	13,800	980	0.201	0.405	13,800	820	0.030	0.270	12,000	670	0.035	0.270	8,500	80	0.017	0.270
		6	6	11,300	790	0.117	0.387	11,300	650	0.021	0.216	9,800	540	0.024	0.216	7,000	64	0.012	0.216
		8	8	9,800	590	0.072	0.360	9,800	490	0.016	0.189	8,500	400	0.018	0.189	6,100	48	0.009	0.189
		10	10	8,800	390	0.048	0.315	8,800	320	0.011	0.126	7,600	270	0.013	0.126	5,400	32	0.006	0.126
		12	12	8,100	260	0.033	0.270	8,100	210	0.008	0.072	7,000	180	0.009	0.072	5,000	21	0.004	0.072
		16	16	7,000	230	0.018	0.225	7,000	190	0.004	0.027	6,100	160	0.005	0.027	4,300	19	0.002	0.027
		20	20	6,300	160	0.015	0.180	6,300	130	0.003	0.018	5,500	110	0.003	0.018	3,900	13	0.001	0.018





