

# J/109 One Design

Based on ORC IMS 2006 Velocity Prediction program

Columns are as follows: VTW=Velocity True Wind, BTW=Beta True Wind (angle), VAW=Velocity Apparent Wind, BAW=Beta Apparent Wind (angle), V=Velocity (boatspeed), VMG=Velocity Made Good (directly to windward or leeward as the case may be), PHI = heel angle, REEF - program trying to quantify effect of flattening sails and bending mast, CL = calculated coefficient of lift, iter = # of iterations VPP used to generate best case boatspeed scenario.

For each wind condition grouping there are several rows of data for several sailing angles, two of these rows are for calculated OPTIMUM VMG data (indicated as such on right hand most column). First is Optimum Downwind VMG (OPTDN CL Asym) with Spinnaker and Optimum Upwind (OPTUP).

VTW	BTW	VAW	BAW	V	VMG	PHI	REEF	FLAT	CL	iter	
6.0	180.0	2.83	180.00	3.101	-3.101	0.0	1.0000	1.0000	-0.0694	4	Asym Spin tacked on CL
6.0	165.0	2.77	146.38	3.423	-3.306	0.2	1.0000	1.0000	0.7114	4	Asym Spin tacked on CL
6.0	150.0	3.12	107.95	4.179	-3.619	0.7	1.0000	1.0000	1.8589	5	Asym Spin tacked on CL
6.0	135.0	4.33	75.93	5.248	-3.711	1.7	1.0000	1.0000	2.5711	6	Asym Spin tacked on CL
6.0	120.0	6.00	58.82	6.073	-3.036	3.0	1.0000	1.0000	2.6504	4	Asym Spin tacked on CL
6.0	110.0	7.07	52.01	6.374	-2.180	3.9	1.0000	1.0000	2.6099	3	Asym Spin tacked on CL
6.0	90.0	8.76	42.49	6.446	0.000	5.4	1.0000	1.0000	2.2601	4	Asym Spin tacked on CL
6.0	80.0	9.26	38.99	6.158	1.069	5.0	1.0000	1.0000	1.9280	3	Asym Spin tacked on CL
6.0	75.0	9.38	37.56	5.894	1.525	4.6	1.0000	1.0000	1.7466	3	Asym Spin tacked on CL
6.0	70.0	9.41	36.25	5.554	1.899	4.1	1.0000	1.0000	1.5746	3	Asym Spin tacked on CL
6.0	60.0	9.24	33.74	4.714	2.357	3.3	1.0000	1.0000	1.2640	4	Asym Spin tacked on CL
6.0	140.7	3.77	85.68	4.874	-3.769	1.3	1.0000	1.0000	2.4415	4	OPTDN CL Asym
6.0	180.0	2.88	180.00	2.917	-2.917	0.1	1.0000	1.0000	-0.1158	4	Jib
6.0	165.0	2.99	149.93	3.007	-2.904	0.3	1.0000	1.0000	0.1834	4	Jib
6.0	150.0	3.42	121.98	3.209	-2.779	0.5	1.0000	1.0000	0.5702	3	Jib
6.0	135.0	4.12	96.53	3.629	-2.566	0.6	1.0000	1.0000	0.9044	3	Jib
6.0	120.0	5.27	72.37	4.492	-2.246	1.1	1.0000	1.0000	1.2307	3	Jib
6.0	110.0	6.28	60.16	5.104	-1.746	1.6	1.0000	1.0000	1.4007	3	Jib
6.0	90.0	8.24	44.67	5.853	0.000	2.8	1.0000	1.0000	1.5665	3	Jib
6.0	80.0	8.99	39.35	5.941	1.032	3.3	1.0000	1.0000	1.5838	3	Jib
6.0	75.0	9.30	36.95	5.927	1.534	3.5	1.0000	1.0000	1.5868	4	Jib
6.0	70.0	9.56	34.68	5.871	2.008	3.7	1.0000	1.0000	1.5876	4	Jib
6.0	60.0	9.88	30.45	5.618	2.809	3.9	1.0000	1.0000	1.5854	5	Jib
6.0	52.0	9.94	27.29	5.261	3.239	4.0	1.0000	1.0000	1.5833	5	Jib
6.0	173.6	2.89	167.15	2.942	-2.924	0.2	1.0000	1.0000	-0.0006	4	Jib OPTDN
6.0	44.4	9.77	24.44	4.748	3.394	3.9	1.0000	1.0000	1.5784	5	OPTUP

VTW	BTW	VAW	BAW	V	VMG	PHI	REEF	FLAT	CL	iter	
8.0	180.0	3.81	180.00	4.107	-4.107	0.1	1.0000	1.0000	-0.0694	4	Asym Spin tacked on CL
8.0	165.0	3.75	146.88	4.504	-4.351	0.4	1.0000	1.0000	0.6978	4	Asym Spin tacked on CL
8.0	150.0	4.23	110.76	5.354	-4.637	1.0	1.0000	1.0000	1.7640	5	Asym Spin tacked on CL
8.0	135.0	5.65	81.56	6.425	-4.543	2.3	1.0000	1.0000	2.5048	5	Asym Spin tacked on CL
8.0	120.0	7.50	65.82	7.024	-3.512	4.1	1.0000	1.0000	2.6374	4	Asym Spin tacked on CL
8.0	110.0	8.69	58.35	7.253	-2.481	6.7	1.0000	1.0000	2.6501	4	Asym Spin tacked on CL
8.0	90.0	10.66	45.96	7.340	0.000	15.4	1.0000	1.0000	2.4680	5	Asym Spin tacked on CL
8.0	80.0	11.43	41.09	7.170	1.245	16.1	1.0000	1.0000	2.1876	3	Asym Spin tacked on CL
8.0	75.0	11.74	39.13	7.003	1.813	14.7	1.0000	1.0000	1.9881	3	Asym Spin tacked on CL
8.0	70.0	11.96	37.46	6.750	2.309	12.3	1.0000	1.0000	1.7667	3	Asym Spin tacked on CL
8.0	60.0	12.04	34.43	5.965	2.982	6.8	1.0000	1.0000	1.3487	4	Asym Spin tacked on CL
8.0	143.1	4.77	94.93	5.917	-4.731	1.5	1.0000	1.0000	2.2492	4	OPTDN CL Asym
8.0	180.0	3.86	180.00	3.871	-3.871	0.1	1.0000	1.0000	-0.1158	3	Jib
8.0	165.0	4.01	150.10	3.985	-3.849	0.5	1.0000	1.0000	0.1814	4	Jib
8.0	150.0	4.58	122.46	4.235	-3.667	0.7	1.0000	1.0000	0.5636	3	Jib
8.0	135.0	5.51	97.84	4.711	-3.331	1.0	1.0000	1.0000	0.8872	3	Jib
8.0	120.0	6.91	75.55	5.586	-2.793	1.6	1.0000	1.0000	1.1870	3	Jib
8.0	110.0	8.07	64.06	6.171	-2.110	2.2	1.0000	1.0000	1.3457	3	Jib
8.0	90.0	10.26	48.73	6.764	0.000	3.8	1.0000	1.0000	1.5395	3	Jib
8.0	80.0	11.16	42.84	6.834	1.187	4.7	1.0000	1.0000	1.5744	4	Jib
8.0	75.0	11.54	40.09	6.825	1.767	5.2	1.0000	1.0000	1.5823	4	Jib
8.0	70.0	11.88	37.44	6.785	2.321	5.9	1.0000	1.0000	1.5863	4	Jib
8.0	60.0	12.39	32.35	6.593	3.296	7.8	1.0000	1.0000	1.5868	4	Jib
8.0	52.0	12.59	28.53	6.301	3.879	8.7	1.0000	1.0000	1.5840	4	Jib
8.0	174.2	3.87	168.26	3.900	-3.880	0.3	1.0000	1.0000	-0.0111	4	Jib OPTDN
8.0	43.4	12.48	24.86	5.706	4.146	8.6	1.0000	1.0000	1.5800	6	OPTUP

# J/109 One Design

Based on ORC IMS 2006 Velocity Prediction program

VTW	BTW	VAW	BAW	V	VMG	PHI	REEF	FLAT	CL	iter				
10.0	180.0	4.85	180.00	5.042	-5.042	0.1	1.0000	1.0000	-0.0694	4	Asym	Spin	tacked	on CL
10.0	165.0	4.81	147.82	5.486	-5.299	0.6	1.0000	1.0000	0.6724	4	Asym	Spin	tacked	on CL
10.0	150.0	5.43	114.35	6.329	-5.481	1.4	1.0000	1.0000	1.6441	5	Asym	Spin	tacked	on CL
10.0	135.0	6.99	88.55	7.170	-5.070	2.9	1.0000	1.0000	2.3894	5	Asym	Spin	tacked	on CL
10.0	120.0	8.94	72.55	7.618	-3.809	6.0	1.0000	1.0000	2.6003	5	Asym	Spin	tacked	on CL
10.0	110.0	10.13	63.98	7.786	-2.663	12.5	1.0000	1.0000	2.6430	4	Asym	Spin	tacked	on CL
10.0	90.0	12.01	49.20	7.720	0.000	23.7	1.0000	0.9548	2.4566	6	Asym	Spin	tacked	on CL
10.0	80.0	12.93	43.71	7.528	1.307	23.5	1.0000	0.8825	2.0976	4	Asym	Spin	tacked	on CL
10.0	75.0	13.35	41.12	7.408	1.917	23.2	1.0000	0.8840	1.9486	3	Asym	Spin	tacked	on CL
10.0	70.0	13.72	38.69	7.255	2.481	22.5	1.0000	0.9256	1.8166	3	Asym	Spin	tacked	on CL
10.0	60.0	14.28	35.00	6.732	3.366	16.7	1.0000	1.0000	1.4511	5	Asym	Spin	tacked	on CL
10.0	150.2	5.41	114.79	6.316	-5.481	1.4	1.0000	1.0000	1.6297	2	OPTDN	CL	Asym	
10.0	180.0	4.89	180.00	4.768	-4.768	0.2	1.0000	1.0000	-0.1158	4	Jib			
10.0	165.0	5.09	150.58	4.896	-4.729	0.7	1.0000	1.0000	0.1755	4	Jib			
10.0	150.0	5.79	123.52	5.166	-4.474	1.0	1.0000	1.0000	0.5487	3	Jib			
10.0	135.0	6.93	99.81	5.648	-3.994	1.4	1.0000	1.0000	0.8613	3	Jib			
10.0	120.0	8.51	79.28	6.411	-3.205	2.1	1.0000	1.0000	1.1362	3	Jib			
10.0	110.0	9.73	68.74	6.829	-2.336	2.8	1.0000	1.0000	1.2807	3	Jib			
10.0	90.0	12.09	52.74	7.315	0.000	5.0	1.0000	1.0000	1.4994	4	Jib			
10.0	80.0	13.07	46.10	7.370	1.280	8.2	1.0000	1.0000	1.5582	4	Jib			
10.0	75.0	13.49	42.93	7.359	1.905	10.0	1.0000	1.0000	1.5737	4	Jib			
10.0	70.0	13.86	39.83	7.323	2.505	11.8	1.0000	1.0000	1.5826	4	Jib			
10.0	60.0	14.46	33.92	7.154	3.577	14.9	1.0000	1.0000	1.5875	4	Jib			
10.0	52.0	14.74	29.54	6.876	4.233	16.7	1.0000	1.0000	1.5849	4	Jib			
10.0	175.0	4.90	170.14	4.795	-4.776	0.4	1.0000	1.0000	-0.0284	4	Jib	OPTDN		
10.0	41.5	14.72	24.55	6.173	4.623	16.3	1.0000	0.9811	1.5496	6	OPTUP			

VTW	BTW	VAW	BAW	V	VMG	PHI	REEF	FLAT	CL	iter				
12.0	180.0	5.97	180.00	5.902	-5.902	0.2	1.0000	1.0000	-0.0694	4	Asym	Spin	tacked	on CL
12.0	165.0	5.98	149.06	6.341	-6.125	0.8	1.0000	1.0000	0.6393	4	Asym	Spin	tacked	on CL
12.0	150.0	6.77	118.79	7.020	-6.079	1.8	1.0000	1.0000	1.5012	4	Asym	Spin	tacked	on CL
12.0	135.0	8.41	94.90	7.673	-5.425	3.5	1.0000	1.0000	2.2499	4	Asym	Spin	tacked	on CL
12.0	120.0	10.36	77.81	8.097	-4.048	10.6	1.0000	1.0000	2.5508	5	Asym	Spin	tacked	on CL
12.0	110.0	11.42	68.16	8.218	-2.811	19.1	1.0000	1.0000	2.6262	5	Asym	Spin	tacked	on CL
12.0	90.0	13.46	53.11	7.928	0.000	25.3	0.9933	0.8066	2.0937	6	Asym	Spin	tacked	on CL
12.0	80.0	14.48	46.94	7.711	1.339	25.0	0.9828	0.7349	1.7836	4	Asym	Spin	tacked	on CL
12.0	75.0	14.95	43.98	7.589	1.964	24.8	0.9817	0.7187	1.6559	3	Asym	Spin	tacked	on CL
12.0	70.0	15.38	41.13	7.448	2.547	24.5	0.9850	0.7197	1.5400	3	Asym	Spin	tacked	on CL
12.0	60.0	16.07	35.97	7.036	3.518	22.8	1.0000	0.8369	1.3489	5	Asym	Spin	tacked	on CL
12.0	159.3	6.18	137.15	6.572	-6.147	1.1	1.0000	1.0000	0.9655	4	OPTDN	CL	Asym	
12.0	180.0	6.00	180.00	5.594	-5.594	0.3	1.0000	1.0000	-0.1158	4	Jib			
12.0	165.0	6.23	151.23	5.732	-5.536	0.9	1.0000	1.0000	0.1677	4	Jib			
12.0	150.0	7.06	124.83	6.007	-5.202	1.4	1.0000	1.0000	0.5303	3	Jib			
12.0	135.0	8.38	102.29	6.411	-4.533	1.8	1.0000	1.0000	0.8292	3	Jib			
12.0	120.0	10.10	83.29	6.974	-3.487	2.5	1.0000	1.0000	1.0819	3	Jib			
12.0	110.0	11.37	72.96	7.294	-2.495	3.3	1.0000	1.0000	1.2225	3	Jib			
12.0	90.0	13.83	56.13	7.693	0.000	8.0	1.0000	1.0000	1.4557	5	Jib			
12.0	80.0	14.81	48.62	7.743	1.345	13.3	1.0000	1.0000	1.5389	4	Jib			
12.0	75.0	15.22	44.99	7.722	1.999	15.9	1.0000	1.0000	1.5633	4	Jib			
12.0	70.0	15.58	41.47	7.667	2.622	18.4	1.0000	1.0000	1.5777	4	Jib			
12.0	60.0	16.18	34.94	7.441	3.721	22.0	1.0000	0.9823	1.5595	5	Jib			
12.0	52.0	16.61	30.68	7.150	4.402	21.1	1.0000	0.9095	1.4424	4	Jib			
12.0	175.7	6.00	171.65	5.617	-5.602	0.5	1.0000	1.0000	-0.0421	4	Jib	OPTDN		
12.0	40.0	16.76	24.81	6.364	4.876	18.3	1.0000	0.8288	1.3099	6	OPTUP			

# J/109 One Design

Based on ORC IMS 2006 Velocity Prediction program

VTW	BTW	VAW	BAW	V	VMG	PHI	REEF	FLAT	CL	iter				
14.0	180.0	7.24	180.00	6.605	-6.605	0.3	1.0000	1.0000	-0.0694	3	Asym	Spin	tacked	on CL
14.0	165.0	7.32	150.70	6.990	-6.752	1.0	1.0000	1.0000	0.5957	4	Asym	Spin	tacked	on CL
14.0	150.0	8.24	122.88	7.520	-6.513	2.2	1.0000	1.0000	1.3758	4	Asym	Spin	tacked	on CL
14.0	135.0	9.91	99.78	8.105	-5.731	4.3	1.0000	1.0000	2.1190	5	Asym	Spin	tacked	on CL
14.0	120.0	11.72	81.68	8.562	-4.281	15.8	1.0000	1.0000	2.5019	6	Asym	Spin	tacked	on CL
14.0	110.0	12.49	71.46	8.529	-2.917	25.9	1.0000	1.0000	2.6048	5	Asym	Spin	tacked	on CL
14.0	90.0	14.90	56.36	8.089	0.000	25.4	0.9024	0.8545	1.8426	4	Asym	Spin	tacked	on CL
14.0	80.0	16.00	49.68	7.846	1.362	25.1	0.8946	0.7607	1.5725	4	Asym	Spin	tacked	on CL
14.0	75.0	16.50	46.48	7.715	1.997	24.9	0.8956	0.7290	1.4599	3	Asym	Spin	tacked	on CL
14.0	70.0	16.97	43.36	7.572	2.590	24.6	0.8985	0.7148	1.3599	3	Asym	Spin	tacked	on CL
14.0	60.0	17.77	37.60	7.184	3.592	23.5	0.9257	0.7539	1.1813	4	Asym	Spin	tacked	on CL
14.0	165.3	7.32	151.25	6.981	-6.752	1.0	1.0000	1.0000	0.5812	2	OPTDN	CL	Asym	
14.0	180.0	7.20	180.00	6.324	-6.324	0.4	1.0000	1.0000	-0.1158	4	Jib			
14.0	165.0	7.49	152.14	6.442	-6.223	1.2	1.0000	1.0000	0.1570	4	Jib			
14.0	150.0	8.44	126.77	6.659	-5.767	1.8	1.0000	1.0000	0.5027	3	Jib			
14.0	135.0	9.90	105.15	6.974	-4.931	2.3	1.0000	1.0000	0.7923	3	Jib			
14.0	120.0	11.71	86.93	7.386	-3.693	3.1	1.0000	1.0000	1.0328	3	Jib			
14.0	110.0	13.03	76.59	7.644	-2.614	4.0	1.0000	1.0000	1.1728	4	Jib			
14.0	90.0	15.50	58.68	8.018	0.000	12.1	1.0000	1.0000	1.4193	5	Jib			
14.0	80.0	16.38	50.30	8.036	1.396	19.0	1.0000	1.0000	1.5214	4	Jib			
14.0	75.0	16.71	46.24	7.968	2.062	22.4	1.0000	1.0000	1.5538	4	Jib			
14.0	70.0	17.11	42.76	7.855	2.686	23.7	1.0000	0.9602	1.5095	4	Jib			
14.0	60.0	17.94	36.69	7.588	3.794	23.2	1.0000	0.8503	1.3491	5	Jib			
14.0	52.0	18.45	32.07	7.309	4.500	22.4	1.0000	0.7841	1.2442	4	Jib			
14.0	177.1	7.20	174.59	6.336	-6.328	0.5	1.0000	1.0000	-0.0685	4	Jib	OPTDN		
14.0	39.2	18.73	25.28	6.508	5.040	19.8	1.0000	0.7085	1.1206	6	OPTUP			

VTW	BTW	VAW	BAW	V	VMG	PHI	REEF	FLAT	CL	iter				
16.0	180.0	8.67	180.00	7.160	-7.160	0.4	1.0000	1.0000	-0.0694	3	Asym	Spin	tacked	on CL
16.0	165.0	8.82	152.33	7.479	-7.224	1.3	1.0000	1.0000	0.5531	4	Asym	Spin	tacked	on CL
16.0	150.0	9.79	126.15	7.931	-6.869	2.6	1.0000	1.0000	1.2786	4	Asym	Spin	tacked	on CL
16.0	135.0	11.45	103.32	8.548	-6.044	5.7	1.0000	1.0000	2.0114	6	Asym	Spin	tacked	on CL
16.0	120.0	12.94	84.78	8.986	-4.493	21.3	1.0000	1.0000	2.4547	6	Asym	Spin	tacked	on CL
16.0	110.0	13.86	75.10	8.745	-2.991	26.4	0.9403	1.0000	2.2769	9	Asym	Spin	tacked	on CL
16.0	90.0	16.36	59.07	8.229	0.000	25.5	0.8279	0.8969	1.6294	4	Asym	Spin	tacked	on CL
16.0	80.0	17.52	51.98	7.957	1.382	25.2	0.8225	0.7870	1.3943	4	Asym	Spin	tacked	on CL
16.0	75.0	18.05	48.59	7.815	2.023	25.0	0.8244	0.7451	1.2957	3	Asym	Spin	tacked	on CL
16.0	70.0	18.55	45.28	7.664	2.621	24.8	0.8287	0.7176	1.2075	3	Asym	Spin	tacked	on CL
16.0	60.0	19.42	39.06	7.284	3.642	23.8	0.8492	0.7281	1.0521	4	Asym	Spin	tacked	on CL
16.0	169.6	8.69	160.86	7.363	-7.243	1.0	1.0000	1.0000	0.3385	4	OPTDN	CL	Asym	
16.0	180.0	8.56	180.00	6.897	-6.897	0.5	1.0000	1.0000	-0.1158	5	Jib			
16.0	165.0	8.88	153.23	7.000	-6.762	1.5	1.0000	1.0000	0.1442	4	Jib			
16.0	150.0	9.91	128.81	7.172	-6.211	2.2	1.0000	1.0000	0.4736	4	Jib			
16.0	135.0	11.47	107.90	7.400	-5.233	2.8	1.0000	1.0000	0.7569	3	Jib			
16.0	120.0	13.36	90.03	7.717	-3.859	3.7	1.0000	1.0000	0.9911	3	Jib			
16.0	110.0	14.72	79.52	7.956	-2.721	5.0	1.0000	1.0000	1.1328	4	Jib			
16.0	90.0	17.05	60.49	8.321	0.000	16.7	1.0000	1.0000	1.3920	6	Jib			
16.0	80.0	17.72	51.41	8.224	1.428	24.8	1.0000	0.9913	1.4930	5	Jib			
16.0	75.0	18.27	47.99	8.098	2.096	24.7	1.0000	0.9104	1.4016	4	Jib			
16.0	70.0	18.78	44.65	7.967	2.725	24.6	1.0000	0.8439	1.3187	4	Jib			
16.0	60.0	19.68	38.21	7.685	3.842	24.1	1.0000	0.7422	1.1761	5	Jib			
16.0	52.0	20.25	33.29	7.407	4.560	23.4	1.0000	0.6819	1.0824	4	Jib			
16.0	177.8	8.56	176.05	6.905	-6.900	0.6	1.0000	1.0000	-0.0814	4	Jib	OPTDN		
16.0	38.9	20.65	25.86	6.611	5.143	21.0	1.0000	0.6122	0.9688	6	OPTUP			

# J/109 One Design

Based on ORC IMS 2006 Velocity Prediction program

VTW	BTW	VAW	BAW	V	VMG	PHI	REEF	FLAT	CL	iter				
20.0	180.0	11.83	180.00	7.952	-7.952	0.6	1.0000	1.0000	-0.0694	4	Asym	Spin	tacked	on CL
20.0	165.0	11.99	154.74	8.264	-7.982	1.8	1.0000	1.0000	0.4908	4	Asym	Spin	tacked	on CL
20.0	150.0	12.94	130.29	8.762	-7.588	3.6	1.0000	1.0000	1.1588	4	Asym	Spin	tacked	on CL
20.0	135.0	14.34	107.77	9.586	-6.778	13.2	1.0000	1.0000	1.8689	7	Asym	Spin	tacked	on CL
20.0	120.0	15.36	90.19	9.608	-4.804	27.4	0.9518	1.0000	2.1351	11	Asym	Spin	tacked	on CL
20.0	110.0	16.70	80.58	9.156	-3.132	26.8	0.8389	1.0000	1.7695	5	Asym	Spin	tacked	on CL
20.0	90.0	19.31	63.35	8.454	0.000	25.7	0.7123	0.9644	1.2935	3	Asym	Spin	tacked	on CL
20.0	80.0	20.56	55.66	8.123	1.411	25.4	0.7109	0.8329	1.1138	4	Asym	Spin	tacked	on CL
20.0	75.0	21.15	51.97	7.956	2.059	25.2	0.7136	0.7781	1.0376	3	Asym	Spin	tacked	on CL
20.0	70.0	21.70	48.37	7.785	2.663	24.9	0.7191	0.7339	0.9689	3	Asym	Spin	tacked	on CL
20.0	60.0	22.67	41.49	7.387	3.694	24.2	0.7363	0.7023	0.8499	4	Asym	Spin	tacked	on CL
20.0	171.2	11.83	165.22	8.111	-8.016	1.3	1.0000	1.0000	0.2358	4	OPTDN	CL	Asym	
20.0	180.0	11.61	180.00	7.709	-7.709	0.8	1.0000	1.0000	-0.1158	5	Jib			
20.0	165.0	11.96	155.32	7.786	-7.521	2.1	1.0000	1.0000	0.1204	4	Jib			
20.0	150.0	13.07	132.45	7.905	-6.846	3.2	1.0000	1.0000	0.4214	4	Jib			
20.0	135.0	14.73	112.29	8.072	-5.708	4.2	1.0000	1.0000	0.7004	4	Jib			
20.0	120.0	16.69	94.50	8.343	-4.171	6.3	1.0000	1.0000	0.9315	4	Jib			
20.0	110.0	17.97	83.59	8.584	-2.936	10.9	1.0000	1.0000	1.0774	4	Jib			
20.0	90.0	19.61	62.95	8.702	0.000	26.3	1.0000	0.9843	1.3303	6	Jib			
20.0	80.0	20.85	55.08	8.410	1.461	25.9	0.9631	0.8655	1.1720	4	Jib			
20.0	75.0	21.43	51.35	8.257	2.137	25.7	0.9487	0.8142	1.1039	3	Jib			
20.0	70.0	21.98	47.71	8.101	2.771	25.5	0.9401	0.7645	1.0415	4	Jib			
20.0	60.0	22.99	40.71	7.778	3.889	25.0	0.9419	0.6636	0.9295	4	Jib			
20.0	52.0	23.69	35.34	7.486	4.609	24.5	0.9626	0.5774	0.8492	5	Jib			
20.0	178.6	11.61	177.65	7.714	-7.711	0.9	1.0000	1.0000	-0.0954	4	Jib	OPTDN		
20.0	39.0	24.33	27.23	6.696	5.205	22.7	1.0000	0.4715	0.7466	7	OPTUP			