

Table S1: Input data for BEP models.

	TURBINE_		TURBINE_	TURBINE_	TURBINE_	TURBINE_	PUMP_ROT_		PUMP_	PUMP_	PUMP_	PUMP_
DIAMETER	ROT_SPEED	TURBINE_NS	FLOW	HEAD	POWER	EFF	SPEED	PUMP_NS	FLOW	HEAD	POWER	EFF
225	1500	18.49822804	19.93	25.8	3678.543876	0.73	1500	20.97863057	10.8	14.5	1181.7036	0.77
258	1500	18.6185266	50.23	47.37	17954.91542	0.77	1500	24.4559958	26.5	21.5	4355.169	0.78
206	1500	28.1190401	33	20.66	5411.96964	0.81	1500	35.32650233	25.4	12.8	2501.14816	0.785
174	1450	30.07042129	23.55	14.42	2396.154096	0.72	1450	36.37931412	15.27	8.38	933.0009091	0.744
264	1450	35.71564943	88.93	27.8	20351.59493	0.84	1450	39.6562658	65.9	19.8	10869.1506	0.85
200	1450	41.12524641	45.43	14.72	5242.840064	0.8	1450	45.15782309	33	10.5	2716.56	0.8
139	1450	38.11128025	17.85	8.74	1161.955032	0.76	1450	46.28005498	13.5	5.6	563.0688	0.76
165	1450	57.62654762	44.94	9.32	3037.433482	0.74	1450	61.26069833	28.9	6.4	1305.07776	0.72
224	1450	69.95482638	130.38	14.64	14216.46831	0.76	1450	79.21496153	103	10.6	8987.6976	0.84
250	1450	10.91050612	12.48	36.49	2856.238694	0.64	1450	14.96573304	8	17.8	914.0656	0.655
250	1450	17.76948598	37.68	39.78	10723.205	0.73	1450	23.89346878	25.01886792	20.4	3801.346777	0.76
250	1450	31.87460662	84.66	31.31	19222.90976	0.74	1450	39.52287722	57.2027027	18.0982659	8775.981447	0.865
250	1450	47.73112559	123.05	23.45	22056.93399	0.78	1450	55.43465571	107	17.5	15964.935	0.87
260	1450	5.298049924	8.32	72.96	1903.637299	0.32	1450	18.69319501	15.88	20.9	1548.209802	0.476
209	1450	8.044784269	6.03	33.73	1016.552716	0.51	1450	24.82686774	13.9	13.1	997.525438	0.559
209	1450	10.68994549	10.21	32.8	1837.865344	0.56	1450	15.76491285	6.027	13.75	528.7020007	0.651
176	1450	11.03129436	5.55	20.95	695.077005	0.61	1450	38.24743163	16.01	8.09	817.4323041	0.644
260	1450	12.09737493	16.26	37.93	3868.20457	0.64	1450	16.14164921	11.41	20.39	1543.539027	0.677
142	1450	36.72997368	16.07	8.56	1051.502525	0.78	1450	42.42560045	12.02	5.82	544.3447397	0.794
330	1450	5.524976958	13.08	93.28	5141.511514	0.43	1450	9.051198266	7.39	33.01	1051.886097	0.44
326	1450	5.043438029	14.11	110.8	5362.42084	0.35	1450	9.477111064	7.52	31.41	1041.656112	0.45
260	1450	8.810083155	10.65	43.66	2323.965042	0.51	1450	12.80005673	6.97	20	751.366	0.55
209	1450	12.59783742	9.72	25.5	1433.12652	0.59	1450	16.34176756	5.28	12	341.5104	0.55
174	1450	26.03012224	15.28	13.1	1432.001872	0.73	1450	28.71685931	9.72	8.5	542.48292	0.67
219	1450	26.91208668	36.52	22.4	6253.158912	0.78	1450	30.29992161	24.16	14.52	2544.024806	0.74
198	1450	29.8160392	31.22	17.6	4092.467456	0.76	1450	34.11991147	23.19	12.06	1973.361398	0.72

Table S1. *Cont.*

	TURBINE_		TURBINE_	TURBINE_	TURBINE_	TURBINE_	PUMP_ROT_		PUMP_	PUMP_	PUMP_	PUMP_
DIAMETER	ROT_SPEED	TURBINE_NS	FLOW	HEAD	POWER	EFF	SPEED	PUMP_NS	FLOW	HEAD	POWER	EFF
219	1450	35.91158862	50	18.8	7738.08	0.84	1450	43.48479928	41.67	12.9	4003.620264	0.76
224	1450	60.46030333	84.33	13.3	9232.920648	0.84	1450	64.04066177	57.93	9.59	4464.389353	0.82
185	1450	64.51990202	43.63	7.86	2352.512148	0.7	1450	77.38519264	34.95	5.32	1421.279496	0.78
260	1450	15.28213215	26.02	38	6298.4012	0.65	1450	20.22748988	16.5	19.3	2028.5265	0.65
269	1450	21.04065088	40.28	33.2	9567.015584	0.73	1450	25.4683104	26.77	19.6	3753.646568	0.73
174	1200	30.42711379	17.33	8.99	1189.383167	0.779	2950	36.16314437	31.29	35.13	7971.52676	0.74
350	1500	30.5542794	124.5	44.82	46099.35553	0.843	1450	31.95778982	90	32.5	24078.6	0.84
177	2000	47.05537823	47.3	19.4	6564.65348	0.73	2000	55.98343114	33.8	12.3	3088.283016	0.758
325	3000	11.64036442	49.53	221.2	73869.97713	0.688	3000	15.3197781	30.62	111.3	22978.13965	0.688
180	2000	16.01124109	10.51	29.96	2178.588976	0.706	2000	19.61386593	6.37	16.37	667.3095939	0.653
215	2900	41.83009393	114	66.96	62389.63181	0.834	2900	46.6362481	80.5	45.93	30038.13273	0.829
262	1475	27.06055905	51.48	28.6	11846.05662	0.821	1475	30.44277464	43.06	21.7	7325.71168	0.8
219	1050	36.83770689	40.51	10.27	3343.278957	0.82	1475	43.45889771	43.06	13.5	4699.89135	0.825
185	1250	47.75475533	55	11.24	4507.41984	0.744	1474	64.59137593	41.67	7.78	2541.669984	0.8
224	1450	62.63298606	138	17.62	18062.6003	0.758	1450	80.01214358	103.6	10.5	8954.7696	0.84
200	3000	6.201147608	10.07	177.1	7602.621411	0.435	3000	9.562706359	5.51	66.5	1702.070958	0.474
160	3000	15.63026849	14.14	64.74	6208.036686	0.692	3000	18.89929581	10.71	41.76	2932.257828	0.669
125	3000	40.11402743	29.1	29.81	6681.955619	0.786	3000	42.18947566	19.62	21.43	3065.633162	0.744
356	1800	22.6002503	109.1	78.24	64328.88262	0.769	1800	23.4129288	84.4	62.9	40476.10974	0.778
505	837	21.6896477	112	30.3	26905.13952	0.809	1160	20.55374725	112	50.3	46375.7952	0.84
312	578.2	32.62965139	50	6.27	2620.6719	0.853	700	39.27505975	52.53	6.53	2827.109654	0.841
340	2500	33.82638425	267.3	128.7	305106.9922	0.905	2500	33.31451053	183.2	102.1	163692.4866	0.893
340	2500	36.58859635	268.3	116.2	273754.26	0.896	2500	35.46187005	195.5	98.1	169906.6102	0.904
315	1510	24.47288695	83.21	46.47	27928.12361	0.737	1500	26.31147055	60.06	33.65	15963.62488	0.806
350	2940	36.06137109	369.4	182	583092.7284	0.885	2940	42.23794785	297.5	127.6	337048.1268	0.906
409	1607	99.01140429	424.2	23.2	76578.21293	0.794	1640	102.6561318	349.4	19.96	59118.80145	0.865
409	1507	163.7006655	413	10.7	33909.52194	0.783	1640	184.1900219	327.6	8.77	24608.26499	0.874

Table S1. *Cont.*

	TURBINE_		TURBINE_	TURBINE_	TURBINE_	TURBINE_	PUMP_ROT_		PUMP_	PUMP_	PUMP_	PUMP_
DIAMETER	ROT_SPEED	TURBINE_NS	FLOW	HEAD	POWER	EFF	SPEED	PUMP_NS	FLOW	HEAD	POWER	EFF
284	1750	21.39966166	50.46	48.47	17545.16362	0.732	1750	23.71942323	36.1	33.8	9781.450952	0.818
273	857	37.09277983	51.85	9.15	3431.249451	0.738	1199	52.02022475	52.1	9.15	3536.557899	0.757
200	2000	19.14139504	32.95	50.58	10354.98747	0.634	2000	26.43405177	19.42	23.12	3172.476368	0.721
250	1000	10.82588889	11.88	21.74	1655.311775	0.654	1450	14.35449179	8.7	19.9	1096.051404	0.646
101.4	2500	10.5494399	2.801	29.14	428.7395242	0.536	2500	19.33874957	1.382	8.11	57.5554243	0.524
246	1450	21.14115811	25.37	24.24	3459.322494	0.574	1425	25.92324244	20	15.4	2209.4688	0.732
320	920	8.349373661	12.19	27.98	1734.781768	0.519	1450	11.97958149	12.53	32.3	2439.241413	0.615
334	1500	21.3317348	69.39	49.01	26828.94197	0.805	1450	22.99112406	51.39	34.7	14155.30355	0.81
219	1500	34.85977522	56.15	22.11	9477.679896	0.779	1450	43.01172987	42.92	13.35	4801.016178	0.855
210	1173	138.4196652	90.4	3.48	2420.156256	0.785	1760	145.1692848	90.4	5.61	4125.109296	0.83
203	609.2	219.9560004	51.73	0.54	208.0539216	0.76	970	262.5355278	51.73	0.793	302.3149205	0.752
318	1510	20.50977013	48.15	40.84	14954.42854	0.776	1480	22.54145329	38.48	30.19	9517.667519	0.836
216	1525	35.12866653	64.9	24.64	11690.96347	0.746	1485	47.83412079	40.94	11.59	4059.491101	0.873
280	1550	38.21343111	120.5	34	31277.3174	0.779	1450	44.80335383	86.1	20.11	13150.52224	0.775
134	3100	9.29572205	3.754	55.86	965.8710146	0.47	2900	13.82912473	2.226	21.24	197.385546	0.426
184	3000	25.63008769	18.68	40.31	3800.344568	0.515	2850	24.68527143	9.86	25.85	1421.267432	0.569
140	3000	53.42499892	44.79	27.12	7999.559931	0.672	2850	66.58975041	25	12.8	2148.16	0.685
127	3550	17.37867767	11.53	61.4	4509.59054	0.65	3500	20.21936174	6.94	35.1	1527.821568	0.64
190	2900	29.70883514	50	61	19817.07	0.663	2900	37.62629629	41	39	12332.4474	0.787
200	2900	17.94533389	21	67	10217.3526	0.741	2900	21.61874948	17	45.4	5619.78452	0.743
120	1450	68.47167766	22	4.6	482.98712	0.487	1450	63.9904518	15	3.9	311.3019	0.543
255	1500	15.33435959	25.62	39.17	6195.82756	0.63	1500	20.59476902	14.48	18.07	1569.293631	0.612
235	1500	17.08652911	23.93	32.4	4558.95216	0.6	1500	21.31035859	14.36	17.17	1524.685149	0.631
215	1500	15.95748015	26.01	37.52	5642.626046	0.59	1500	24.70445773	13.83	13.75	1110.70113	0.596
401	1520	15.67010126	72.615	77.57348	41899.36758	0.759	1450	17.86672249	52.673	49.373	19140.07273	0.751
220	1570	14.28051156	30.197	51.0721	10398.29247	0.688	2900	15.35959461	42.037	130.952	41647.33598	0.772
384	1550	63.47328671	144.7	19.5269	18724.19155	0.6762	2935	22.2260338	19.644	48.957	7775.435925	0.825

Table S1. *Cont.*

	TURBINE_		TURBINE_	TURBINE_	TURBINE_	TURBINE_	PUMP_ROT_		PUMP_	PUMP_	PUMP_	PUMP_
DIAMETER	ROT_SPEED	TURBINE_NS	FLOW	HEAD	POWER	EFF	SPEED	PUMP_NS	FLOW	HEAD	POWER	EFF
139	1200	13.30000937	5.1	11.99	323.600508	0.54	1450	27.04328659	3.889	5	129.390919	0.679
419	1000	24.27695832	90.57	28.69	22918.35811	0.9	1000	24.86984592	77.778	25.1	15114.14763	0.79
226	754	71.90701792	133	5.98	6157.52228	0.79	1450	104.3379796	222	12.25	20921.1135	0.785
189	2900	28.73134731	60.33	72.29	35474.45386	0.83	2900	37.67673678	41.11	39	12365.53445	0.787
146	2900	77.15669662	30.09	12.18	3088.829974	0.86	2900	26.61334291	24.58	44	8108.15544	0.765
258	1450	15.57726661	19.44	30.5	4067.4312	0.7	1450	16.07846271	11.58	20.7	1674.921704	0.713
203	1480	23.50362504	22.22	19.8	3276.792288	0.76	1480	27.0527407	13.889	12	1260.943421	0.772
140	2900	30.90080693	25.14	36.6	6853.083552	0.76	2900	35.49319552	18.5	24.8	3552.0296	0.79
158	3000	20.96082891	18	51.42	6530.75136	0.72	3000	18.26196849	11	44.5	3233.2454	0.674
127	3000	31.12885295	18.1	30.46	3728.066412	0.69	3000	26.43724035	10	25.5	1691.823	0.677
127	3000	52.75802238	39.1	25.19	6660.089898	0.69	3000	47.94064692	26.1	21.86	4042.546628	0.723
155	1450	11.42703395	4.99	18.62	364.222096	0.4	1450	36.19002718	8.95	5.91	233.264745	0.45
200	1750	19.51855446	28.67	37.59	6759.367642	0.64	1750	28.54415884	19.31	17.4	2453.092194	0.745
132	1500	16.51118216	6.01	13.5	381.65904	0.48	1450	24.0415586	3.84	5.8	152.78592	0.7
301	1520	32.69966465	95.83	35	26624.4489	0.81	1450	33.61897157	75	26.9	16608.06	0.84
389	1020	43.78474483	302.78	30	75664.722	0.85	1450	50.20146011	291.94	39	98189.93184	0.88
255	1500	16.48201216	25	35	5659.5	0.66	1500	20.61925683	15.06	18.52	1639.997856	0.6
242	2900	8.581423171	11.11	117.2	8804.746104	0.69	2900	9.687126335	10.77	97.667	7318.936439	0.71
236	1450	77.46962362	126	12.49	12800.80116	0.83	1450	93.76903205	100	8.3	6678.014	0.821
259	1450	25.70608658	50	29.36	10789.8	0.75	1450	47.91213537	50	12.8	4327.68	0.69
200	1500	21.80783584	20.08	20.82	2622.107443	0.64	1500	27.02091127	15	12.88	925.85304	0.489
301	1450	31.19375904	95.83	35	26624.4489	0.81	1450	33.52554224	75	27	16669.8	0.84
389	1450	61.09039624	291.67	30	72888.333	0.85	1450	50.20146011	291.94	39	98189.93184	0.88
269	1550	30.14656867	45.7	24.4382	9204.654384	0.841	1550	33.18051881	44.32	21.07	7312.016156	0.799
219	1550	40.81877308	50.2	17.3686	7262.957988	0.85	1550	47.48061657	46.08	13.41	4983.875205	0.823
185	1550	55.60690385	59.6	12.8954	5370.27695	0.713	1550	66.2165287	40.37	7.88	2497.143837	0.801
224	1050	65.32291705	94.9	8.44	5887.0266	0.75	1050	14.02558332	71.71	54.46	32186.92077	0.841

Table S1. Cont.

	TURBINE_		TURBINE_	TURBINE_	TURBINE_	TURBINE_	PUMP_ROT_		PUMP_	PUMP_	PUMP_	PUMP_
DIAMETER	ROT_SPEED	TURBINE_NS	FLOW	HEAD	POWER	EFF	SPEED	PUMP_NS	FLOW	HEAD	POWER	EFF
200	1200	28.57760054	24.8	12.412	1803.934263	0.598	1400	30.5068308	22	12.9	1232.08932	0.443
225	1100	26.22613542	23.6	11.99	1979.955701	0.714	1400	26.97608768	20.5	14.5	1471.09025	0.505
250	1100	26.38342578	23.2	11.76	2050.769011	0.767	1400	25.51481412	23.9	17.3	2374.475516	0.586
255	1200	24.96361159	29.8	16.8	3532.51584	0.72	1450	28.00432108	25	16.5	2951.025	0.73
265	800	25.7453048	28.9	9.2	2058.44296	0.79	1450	27.16897033	35	21.5	5678.365	0.77
210	1200	18.21068193	16	16.9	1881.4432	0.71	1420	23.85624223	14	13.5	1315.062	0.71
419	1200	23.23566932	91.667	39.1	28451.21846	0.81	800	22.72512892	61.11	17.9	9058.329189	0.845
139	1200	13.30000937	5.1	11.99	320.604207	0.535	1450	27.04328659	3.889	5	129.390919	0.679
266	3000	35.97393179	32.1	36.8	8092.004256	0.699	3000	39.26531724	21.8	25.3	3486.28434	0.645
65	3000	21.77488403	17.1	47.23	5722.402858	0.723	2920	12.30982114	10.5	70.41	4883.257386	0.674
65	3000	30.05791767	17.9	31.68	3845.655475	0.692	2920	18.8472871	10.1	38.88	2605.327805	0.677
80	2700	48.89299246	36.1	22.97	5745.312906	0.707	2400	26.25657472	21.9	32.23	5084.143911	0.735
65	1250	13.80056182	9	17.6	982.61856	0.633	1450	21.57332183	7	10	514.5	0.75
139	1450	28.25106949	3.66	4.53	98.62659828	0.607	1020	17.4537596	4.053	5.765	153.1891861	0.669
174	1540	29.49111992	14.62	11.67	1225.598664	0.733	1450	30.61470522	11.944	8.954	842.6534616	0.804
185	1250	47.76777758	55.03	11.24	4473.508445	0.738	1450	60.52909567	40.075	8.087	2604.359315	0.82
224	1450	65.06050763	131.88	16.25	15730.41561	0.749	1450	80.00043188	104.34	10.552	9343.930137	0.866
334	1500	21.0637643	71.44	50.82	28641.65193	0.805	1450	22.86598766	51.03	34.79	14092.59891	0.81
219	1500	35.10465349	55.48	21.73	9203.64189	0.779	1450	42.41345128	42.11	13.43	4733.094771	0.854
320	1450	12.63406257	13.11	31.01	2087.669857	0.524	1450	12.43644776	13.31	31.99	2566.217646	0.615
141	1520	54.33244309	22.01	6.67	1116.435592	0.776	1450	55.19885307	16.74	5.11	694.1171362	0.828
174	1015	34.03149342	15.5	5.75	688.2589	0.788	1450	37.57609164	16.76	8.54	1164.222674	0.83
219	1525	23.17588995	22.72	21.31	3762.625892	0.793	1450	24.87887464	16.76	14.799	1942.134215	0.799
260	1520	17.42127373	23.49	31.74	5633.397451	0.771	1450	20.24001982	17.65	20.17	2648.002919	0.759
320	1520	13.61197851	29.2	50.99	9965.856807	0.683	1450	16.37175589	23.74	32.61	5606.631691	0.739
212	1520	28.71483707	37.81	22.39	6562.409544	0.791	2900	33.55019185	58.19	57.39	27261.87104	0.833
296	1520	21.15027388	37.34	33.38	9710.774077	0.795	1450	24.35106295	29.76	22.33	5236.049871	0.804

Table S1. *Cont.*

	TURBINE_		TURBINE_	TURBINE_	TURBINE_	TURBINE_	PUMP_ROT_		PUMP_	PUMP_	PUMP_	PUMP_
DIAMETER	ROT_SPEED	TURBINE_NS	FLOW	HEAD	POWER	EFF	SPEED	PUMP_NS	FLOW	HEAD	POWER	EFF
334	1520	17.30919559	51.53	54.05	18751.61396	0.687	1450	19.16751263	37.87	36.08	10310.47408	0.77
404	1020	12.11953519	36.59	40.65	9474.632895	0.65	1450	16.59230498	44.46	48.67	15289.45993	0.721
219	1510	36.58112976	56.56	21.02	8971.372995	0.77	1450	42.41848701	42.12	13.43	4734.218755	0.854
334	1515	19.82524865	75.23	57.79	31741.40195	0.745	1450	24.80269532	59.73	34.67	16438.32078	0.81
404	1520	15.95631293	69.61	73.62	37566.01438	0.748	1450	17.34303079	51.66	50.71	19228.96486	0.749
419	1525	19.51289395	112.35	77.8	69042.068	0.806	1450	20.98221891	88.48	56.31	39549.56725	0.81
269	1520	54.19021238	164.15	25.55	33251.12847	0.809	1450	62.24213087	140.95	18.02	21929.15266	0.881
205	1550	21.78015256	28.18	27.31	3838.89777	0.509	2900	25.95611455	32.89	55.24	15597.23894	0.876
260	3050	11.51010927	16.14	108.7	6533.452632	0.38	2900	13.04240778	14.1	78.62	6931.048001	0.638
189	2910	32.31885775	49.6	54.48	16153.79942	0.61	2900	31.2194311	33.33	43.57	13659.33936	0.9598
146	2910	24.28727414	30.61	57.8	12605.25555	0.727	2900	28.16217737	25.55	41.87	8282.225147	0.79

Table S2: Input data for characteristic curve models.

MAC		TURB	TURB				Q_t/Q_t	H_t/H_{tBE}		PUMP	PUMP				Q_p/Q_{pB}	H_p/H_{pB}	E_p/E_{pBE}
HINE	DIAM	ROT	SPEC	Q_{tBEP}	H_{tBEP}	E_{tBEP}	BEP	P	E_t/E_{tBEP}	ROT	SPEC	Q_{pBEP}	H_{pBEP}	E_{pBEP}	EP	EP	P
M.1	0.139	1450	68.899	0.004	4.531	0.607	0.656	0.629	0.762	1020	17.452	0.004	5.765	0.669	0.000	1.196	0.000
M.1	0.139	1450	68.899	0.004	4.531	0.607	0.766	0.728	0.892	1020	17.452	0.004	5.765	0.669	0.242	1.187	0.523
M.1	0.139	1450	68.899	0.004	4.531	0.607	0.820	0.779	0.937	1020	17.452	0.004	5.765	0.669	0.336	1.174	0.673
M.1	0.139	1450	68.899	0.004	4.531	0.607	0.875	0.828	0.981	1020	17.452	0.004	5.765	0.669	0.480	1.150	0.822
M.1	0.139	1450	68.899	0.004	4.531	0.607	0.919	0.883	1.001	1020	17.452	0.004	5.765	0.669	0.616	1.123	0.927
M.1	0.139	1450	68.899	0.004	4.531	0.607	1.039	1.062	0.993	1020	17.452	0.004	5.765	0.669	0.774	1.060	0.987
M.1	0.139	1450	68.899	0.004	4.531	0.607	1.094	1.159	0.985	1020	17.452	0.004	5.765	0.669	0.927	0.985	1.002
M.1	0.139	1450	68.899	0.004	4.531	0.607	1.148	1.254	0.965	1020	17.452	0.004	5.765	0.669	1.054	0.920	0.987
M.3	0.185	1250	128.524	0.055	11.236	0.738	0.477	0.357	0.198	1450	60.529	0.040	8.087	0.820	0.000	1.276	0.000
M.3	0.185	1250	128.524	0.055	11.236	0.738	0.598	0.453	0.664	1450	60.529	0.040	8.087	0.820	0.336	1.263	0.585
M.3	0.185	1250	128.524	0.055	11.236	0.738	0.696	0.552	0.861	1450	60.529	0.040	8.087	0.820	0.504	1.236	0.780
M.3	0.185	1250	128.524	0.055	11.236	0.738	0.760	0.633	0.923	1450	60.529	0.040	8.087	0.820	0.696	1.178	0.927
M.3	0.185	1250	128.524	0.055	11.236	0.738	0.811	0.703	0.960	1450	60.529	0.040	8.087	0.820	0.879	1.086	0.988
M.3	0.185	1250	128.524	0.055	11.236	0.738	0.909	0.854	0.992	1450	60.529	0.040	8.087	0.820	1.005	0.997	1.000
M.3	0.185	1250	128.524	0.055	11.236	0.738	0.989	0.991	0.999	1450	60.529	0.040	8.087	0.820	1.135	0.897	0.988
M.3	0.185	1250	128.524	0.055	11.236	0.738	1.118	1.214	0.982	1450	60.529	0.040	8.087	0.820	1.324	0.727	0.927
M.3	0.185	1250	128.524	0.055	11.236	0.738	0.477	0.357	0.198	2900	121.059	0.040	8.087	0.820	0.000	1.258	0.000
M.3	0.185	1250	128.524	0.055	11.236	0.738	0.598	0.453	0.664	2900	121.059	0.040	8.087	0.820	0.343	1.250	0.610
M.3	0.185	1250	128.524	0.055	11.236	0.738	0.696	0.552	0.861	2900	121.059	0.040	8.087	0.820	0.443	1.226	0.732
M.3	0.185	1250	128.524	0.055	11.236	0.738	0.760	0.633	0.923	2900	121.059	0.040	8.087	0.820	0.563	1.196	0.854
M.3	0.185	1250	128.524	0.055	11.236	0.738	0.811	0.703	0.960	2900	121.059	0.040	8.087	0.820	0.688	1.154	0.939
M.3	0.185	1250	128.524	0.055	11.236	0.738	0.909	0.854	0.992	2900	121.059	0.040	8.087	0.820	0.849	1.076	0.988
M.3	0.185	1250	128.524	0.055	11.236	0.738	0.989	0.991	0.999	2900	121.059	0.040	8.087	0.820	0.971	0.992	1.000
M.3	0.185	1250	128.524	0.055	11.236	0.738	1.118	1.214	0.982	2900	121.059	0.040	8.087	0.820	1.099	0.896	0.988
M.4	0.224	1450	176.369	0.132	16.250	0.749	0.663	0.506	0.777	1450	79.999	0.104	10.552	0.866	0.000	1.377	0.000

Table S2. Cont.

MAC	DIAM	TURB ROT	TURB SPEC	Q_t/Q_{tBEP}	H_t/H_{tBEP}	E_t/E_{tBEP}	Q_t/Q_{tBEP}	H_t/H_{tBE}	E_t/E_{tBEP}	PUMP ROT	PUMP SPEC	Q_p/Q_{pBEP}	H_p/H_{pBEP}	E_p/E_{pBEP}	Q_p/Q_{pB}	H_p/H_{pB}	E_p/E_{pBE}
		SPEED	SPEED							SPEED	SPEED				EP	EP	P
M.4	0.224	1450	176.369	0.132	16.250	0.749	0.714	0.568	0.836	1450	79.999	0.104	10.552	0.866	0.416	1.336	0.693
M.4	0.224	1450	176.369	0.132	16.250	0.749	0.765	0.635	0.905	1450	79.999	0.104	10.552	0.866	0.527	1.295	0.808
M.4	0.224	1450	176.369	0.132	16.250	0.749	0.832	0.723	0.944	1450	79.999	0.104	10.552	0.866	0.686	1.224	0.924
M.4	0.224	1450	176.369	0.132	16.250	0.749	0.896	0.820	0.981	1450	79.999	0.104	10.552	0.866	0.832	1.132	0.981
M.4	0.224	1450	176.369	0.132	16.250	0.749	0.933	0.881	0.983	1450	79.999	0.104	10.552	0.866	0.991	1.008	0.999
M.4	0.224	1450	176.369	0.132	16.250	0.749	0.988	0.982	1.000	1450	79.999	0.104	10.552	0.866	1.149	0.866	0.981
M.4	0.224	1450	176.369	0.132	16.250	0.749	1.010	1.021	1.000	1450	79.999	0.104	10.552	0.866	1.289	0.706	0.924
M.5	0.334	1500	59.213	0.071	50.817	0.805	0.563	0.647	0.728	1450	22.866	0.051	34.792	0.810	0.000	1.148	0.000
M.5	0.334	1500	59.213	0.071	50.817	0.805	0.841	0.828	0.977	1450	22.866	0.051	34.792	0.810	0.387	1.141	0.741
M.5	0.334	1500	59.213	0.071	50.817	0.805	0.928	0.910	0.996	1450	22.866	0.051	34.792	0.810	0.537	1.121	0.864
M.5	0.334	1500	59.213	0.071	50.817	0.805	0.943	0.923	0.997	1450	22.866	0.051	34.792	0.810	0.707	1.094	0.951
M.5	0.334	1500	59.213	0.071	50.817	0.805	0.956	0.944	1.001	1450	22.866	0.051	34.792	0.810	0.857	1.051	0.988
M.5	0.334	1500	59.213	0.071	50.817	0.805	1.003	1.006	0.997	1450	22.866	0.051	34.792	0.810	1.021	0.992	1.000
M.5	0.334	1500	59.213	0.071	50.817	0.805	1.094	1.130	0.989	1450	22.866	0.051	34.792	0.810	1.195	0.917	0.988
M.6	0.219	1500	97.054	0.055	21.727	0.779	0.603	0.575	0.689	1450	42.408	0.042	13.434	0.854	0.000	1.194	0.000
M.6	0.219	1500	97.054	0.055	21.727	0.779	0.786	0.712	0.940	1450	42.408	0.042	13.434	0.854	0.306	1.197	0.585
M.6	0.219	1500	97.054	0.055	21.727	0.779	0.902	0.862	0.981	1450	42.408	0.042	13.434	0.854	0.462	1.187	0.761
M.6	0.219	1500	97.054	0.055	21.727	0.779	0.978	0.972	1.000	1450	42.408	0.042	13.434	0.854	0.590	1.163	0.866
M.6	0.219	1500	97.054	0.055	21.727	0.779	1.010	1.016	1.000	1450	42.408	0.042	13.434	0.854	0.716	1.131	0.936
M.6	0.219	1500	97.054	0.055	21.727	0.779	1.037	1.046	1.002	1450	42.408	0.042	13.434	0.854	0.851	1.084	0.983
M.6	0.219	1500	97.054	0.055	21.727	0.779	1.082	1.140	0.995	1450	42.408	0.042	13.434	0.854	0.991	1.016	1.001
M.6	0.219	1500	97.054	0.055	21.727	0.779	1.265	1.459	0.956	1450	42.408	0.042	13.434	0.854	1.128	0.924	0.983
M.6	0.219	1500	97.054	0.055	21.727	0.779	1.444	1.861	0.891	1450	42.408	0.042	13.434	0.854	1.256	0.821	0.936
M.7	0.32	1450	28.648	0.013	31.006	0.524	0.469	0.459	0.466	1450	12.436	0.013	31.988	0.615	0.000	1.131	0.000
M.7	0.32	1450	28.648	0.013	31.006	0.524	0.624	0.559	0.857	1450	12.436	0.013	31.988	0.615	0.412	1.107	0.732
M.7	0.32	1450	28.648	0.013	31.006	0.524	0.781	0.710	0.974	1450	12.436	0.013	31.988	0.615	0.556	1.096	0.862

Table S2. Cont.

MAC	DIAM	TURB	TURB	Q_t/Q_t	H_t/H_{tBE}	E_t/E_{tBEP}	Q_t/Q_t	H_t/H_{tBE}	E_t/E_{tBEP}	PUMP	PUMP	Q_p/Q_{pB}	H_p/H_{pB}	E_p/E_{pBE}	Q_p/Q_{pB}	H_p/H_{pB}	E_p/E_{pBE}
		ROT	SPEC							ROT	SPEC						
HINE		SPEED	SPEED	Q_{tBEP}	H_{tBEP}	E_{tBEP}	BEP	P		SPEED	SPEED	Q_{pBEP}	H_{pBEP}	E_{pBEP}	EP	EP	P
M.7	0.32	1450	28.648	0.013	31.006	0.524	0.938	0.915	1.000	1450	12.436	0.013	31.988	0.615	0.690	1.078	0.943
M.7	0.32	1450	28.648	0.013	31.006	0.524	0.969	0.972	1.000	1450	12.436	0.013	31.988	0.615	0.820	1.055	0.984
M.7	0.32	1450	28.648	0.013	31.006	0.524	0.990	0.991	0.995	1450	12.436	0.013	31.988	0.615	0.956	1.007	1.000
M.7	0.32	1450	28.648	0.013	31.006	0.524	1.280	1.461	0.922	1450	12.436	0.013	31.988	0.615	1.078	0.945	0.984
M.7	0.32	1450	28.648	0.013	31.006	0.524	1.457	1.814	0.848	1450	12.436	0.013	31.988	0.615	1.178	0.883	0.943
M.8	0.141	1520	149.877	0.022	6.668	0.776	0.847	0.781	0.783	1450	55.244	0.017	5.109	0.828	0.000	1.204	0.000
M.8	0.141	1520	149.877	0.022	6.668	0.776	0.917	0.875	0.869	1450	55.244	0.017	5.109	0.828	0.343	1.200	0.604
M.8	0.141	1520	149.877	0.022	6.668	0.776	0.983	0.974	0.939	1450	55.244	0.017	5.109	0.828	0.517	1.203	0.785
M.8	0.141	1520	149.877	0.022	6.668	0.776	1.094	1.167	0.998	1450	55.244	0.017	5.109	0.828	0.680	1.166	0.894
M.8	0.141	1520	149.877	0.022	6.668	0.776	1.198	1.374	0.977	1450	55.244	0.017	5.109	0.828	0.837	1.116	0.966
M.8	0.141	1520	149.877	0.022	6.668	0.776	1.308	1.617	0.934	1450	55.244	0.017	5.109	0.828	0.996	1.026	1.003
M.8	0.141	1520	149.877	0.022	6.668	0.776	1.353	1.725	0.907	1450	55.244	0.017	5.109	0.828	1.153	0.893	0.966
M.8	0.141	1520	149.877	0.022	6.668	0.776	0.847	0.781	0.783	2900	110.488	0.017	5.109	0.828	0.000	1.264	0.000
M.8	0.141	1520	149.877	0.022	6.668	0.776	0.917	0.875	0.869	2900	110.488	0.017	5.109	0.828	0.364	1.256	0.675
M.8	0.141	1520	149.877	0.022	6.668	0.776	0.983	0.974	0.939	2900	110.488	0.017	5.109	0.828	0.488	1.233	0.807
M.8	0.141	1520	149.877	0.022	6.668	0.776	1.094	1.167	0.998	2900	110.488	0.017	5.109	0.828	0.622	1.206	0.904
M.8	0.141	1520	149.877	0.022	6.668	0.776	1.198	1.374	0.977	2900	110.488	0.017	5.109	0.828	0.772	1.156	0.964
M.8	0.141	1520	149.877	0.022	6.668	0.776	1.308	1.617	0.934	2900	110.488	0.017	5.109	0.828	0.999	1.008	1.000
M.8	0.141	1520	149.877	0.022	6.668	0.776	1.353	1.725	0.907	2900	110.488	0.017	5.109	0.828	1.195	0.834	0.964
M.9	0.174	1015	94.661	0.016	5.748	0.788	0.743	0.687	0.845	1450	37.543	0.017	8.543	0.830	0.000	1.201	0.000
M.9	0.174	1015	94.661	0.016	5.748	0.788	0.807	0.752	0.924	1450	37.543	0.017	8.543	0.830	0.306	1.192	0.602
M.9	0.174	1015	94.661	0.016	5.748	0.788	0.869	0.822	0.967	1450	37.543	0.017	8.543	0.830	0.464	1.179	0.783
M.9	0.174	1015	94.661	0.016	5.748	0.788	0.924	0.895	0.993	1450	37.543	0.017	8.543	0.830	0.628	1.147	0.903
M.9	0.174	1015	94.661	0.016	5.748	0.788	0.985	0.978	0.999	1450	37.543	0.017	8.543	0.830	0.803	1.099	0.975
M.9	0.174	1015	94.661	0.016	5.748	0.788	1.042	1.067	0.993	1450	37.543	0.017	8.543	0.830	0.995	1.010	1.000
M.9	0.174	1015	94.661	0.016	5.748	0.788	1.111	1.180	0.983	1450	37.543	0.017	8.543	0.830	1.178	0.891	0.975

Table S2. Cont.

MAC		TURB ROT	TURB SPEC							PUMP ROT	PUMP SPEC						
HINE	DIAM	SPEED	SPEED	Q_{tBEP}	H_{tBEP}	E_{tBEP}	Q_t/Q_{tBEP}	H_t/H_{tBE}	E_t/E_{tBEP}	SPEED	SPEED	Q_{pBEP}	H_{pBEP}	E_{pBEP}	Q_p/Q_{pB}	H_p/H_{pB}	E_p/E_{pBE}
								P							EP	EP	P
M.9	0.174	1015	94.661	0.016	5.748	0.788	1.179	1.302	0.961	1450	37.543	0.017	8.543	0.830	1.345	0.741	0.903
M.9	0.174	1015	94.661	0.016	5.748	0.788	0.743	0.687	0.845	2900	75.086	0.017	8.543	0.830	0.000	1.184	0.000
M.9	0.174	1015	94.661	0.016	5.748	0.788	0.807	0.752	0.924	2900	75.086	0.017	8.543	0.830	0.306	1.183	0.661
M.9	0.174	1015	94.661	0.016	5.748	0.788	0.869	0.822	0.967	2900	75.086	0.017	8.543	0.830	0.434	1.170	0.806
M.9	0.174	1015	94.661	0.016	5.748	0.788	0.924	0.895	0.993	2900	75.086	0.017	8.543	0.830	0.557	1.152	0.902
M.9	0.174	1015	94.661	0.016	5.748	0.788	0.985	0.978	0.999	2900	75.086	0.017	8.543	0.830	0.682	1.119	0.962
M.9	0.174	1015	94.661	0.016	5.748	0.788	1.042	1.067	0.993	2900	75.086	0.017	8.543	0.830	0.846	1.059	0.992
M.9	0.174	1015	94.661	0.016	5.748	0.788	1.111	1.180	0.983	2900	75.086	0.017	8.543	0.830	0.994	0.989	0.998
M.9	0.174	1015	94.661	0.016	5.748	0.788	1.179	1.302	0.961	2900	75.086	0.017	8.543	0.830	1.129	0.911	0.992
M.10	0.219	1525	64.641	0.023	21.306	0.793	0.734	0.756	0.760	1450	24.882	0.017	14.799	0.799	0.309	1.132	0.626
M.10	0.219	1525	64.641	0.023	21.306	0.793	0.855	0.873	0.898	1450	24.882	0.017	14.799	0.799	0.464	1.121	0.801
M.10	0.219	1525	64.641	0.023	21.306	0.793	0.977	1.020	0.987	1450	24.882	0.017	14.799	0.799	0.627	1.103	0.914
M.10	0.219	1525	64.641	0.023	21.306	0.793	1.100	1.193	0.997	1450	24.882	0.017	14.799	0.799	0.781	1.081	0.970
M.10	0.219	1525	64.641	0.023	21.306	0.793	1.222	1.394	0.987	1450	24.882	0.017	14.799	0.799	1.001	1.006	1.001
M.10	0.219	1525	64.641	0.023	21.306	0.793	1.332	1.597	0.952	1450	24.882	0.017	14.799	0.799	1.191	0.909	0.970
M.10	0.219	1525	64.641	0.023	21.306	0.793	1.413	1.757	0.913	1450	24.882	0.017	14.799	0.799	1.333	0.808	0.914
M.10	0.219	1525	64.641	0.023	21.306	0.793	0.734	0.756	0.760	2900	49.764	0.017	14.799	0.799	0.000	1.146	0.000
M.10	0.219	1525	64.641	0.023	21.306	0.793	0.855	0.873	0.898	2900	49.764	0.017	14.799	0.799	0.284	1.141	0.625
M.10	0.219	1525	64.641	0.023	21.306	0.793	0.977	1.020	0.987	2900	49.764	0.017	14.799	0.799	0.448	1.126	0.813
M.10	0.219	1525	64.641	0.023	21.306	0.793	1.100	1.193	0.997	2900	49.764	0.017	14.799	0.799	0.614	1.101	0.925
M.10	0.219	1525	64.641	0.023	21.306	0.793	1.222	1.394	0.987	2900	49.764	0.017	14.799	0.799	0.755	1.067	0.976
M.10	0.219	1525	64.641	0.023	21.306	0.793	1.332	1.597	0.952	2900	49.764	0.017	14.799	0.799	0.921	1.001	1.001
M.10	0.219	1525	64.641	0.023	21.306	0.793	1.413	1.757	0.913	2900	49.764	0.017	14.799	0.799	1.063	0.923	0.976
M.11	0.26	1520	47.903	0.023	31.741	0.771	0.647	0.675	0.603	1450	20.238	0.018	20.169	0.759	0.410	1.135	0.764
M.11	0.26	1520	47.903	0.023	31.741	0.771	0.769	0.756	0.831	1450	20.238	0.018	20.169	0.759	0.588	1.120	0.896
M.11	0.26	1520	47.903	0.023	31.741	0.771	0.886	0.869	0.950	1450	20.238	0.018	20.169	0.759	0.751	1.097	0.962

Table S2. Cont.

MAC		TURB ROT	TURB SPEC				Q_t/Q_t	H_t/H_{tBE}		PUMP ROT	PUMP SPEC				Q_p/Q_{pB}	H_p/H_{pB}	E_p/E_{pBE}
HINE	DIAM	SPEED	SPEED	Q_{tBEP}	H_{tBEP}	E_{tBEP}	BEP	P	E_t/E_{tBEP}	SPEED	SPEED	Q_{pBEP}	H_{pBEP}	E_{pBEP}	EP	EP	P
M.11	0.26	1520	47.903	0.023	31.741	0.771	1.004	1.004	0.999	1450	20.238	0.018	20.169	0.759	0.968	1.026	1.002
M.11	0.26	1520	47.903	0.023	31.741	0.771	1.123	1.170	0.988	1450	20.238	0.018	20.169	0.759	1.184	0.904	0.962
M.11	0.26	1520	47.903	0.023	31.741	0.771	1.241	1.355	0.950	1450	20.238	0.018	20.169	0.759	1.302	0.806	0.896
M.11	0.26	1520	47.903	0.023	31.741	0.771	0.647	0.675	0.603	2900	40.476	0.018	20.169	0.759	0.000	1.132	0.000
M.11	0.26	1520	47.903	0.023	31.741	0.771	0.769	0.756	0.831	2900	40.476	0.018	20.169	0.759	0.389	1.122	0.723
M.11	0.26	1520	47.903	0.023	31.741	0.771	0.886	0.869	0.950	2900	40.476	0.018	20.169	0.759	0.608	1.103	0.894
M.11	0.26	1520	47.903	0.023	31.741	0.771	1.004	1.004	0.999	2900	40.476	0.018	20.169	0.759	0.803	1.073	0.973
M.11	0.26	1520	47.903	0.023	31.741	0.771	1.123	1.170	0.988	2900	40.476	0.018	20.169	0.759	1.025	1.003	1.000
M.11	0.26	1520	47.903	0.023	31.741	0.771	1.241	1.355	0.950	2900	40.476	0.018	20.169	0.759	1.195	0.908	0.973
M.12	0.32	1520	35.240	0.029	50.998	0.683	0.705	0.719	0.542	1450	16.373	0.024	32.610	0.739	0.000	1.134	0.000
M.12	0.32	1520	35.240	0.029	50.998	0.683	0.832	0.819	0.733	1450	16.373	0.024	32.610	0.739	0.280	1.127	0.609
M.12	0.32	1520	35.240	0.029	50.998	0.683	0.960	0.950	0.870	1450	16.373	0.024	32.610	0.739	0.453	1.125	0.798
M.12	0.32	1520	35.240	0.029	50.998	0.683	1.047	1.063	0.979	1450	16.373	0.024	32.610	0.739	0.642	1.102	0.920
M.12	0.32	1520	35.240	0.029	50.998	0.683	1.177	1.249	1.001	1450	16.373	0.024	32.610	0.739	0.818	1.063	0.981
M.12	0.32	1520	35.240	0.029	50.998	0.683	1.251	1.362	0.979	1450	16.373	0.024	32.610	0.739	0.965	1.009	1.001
M.12	0.32	1520	35.240	0.029	50.998	0.683	1.313	1.471	0.941	1450	16.373	0.024	32.610	0.739	1.108	0.940	0.981
M.12	0.32	1520	35.240	0.029	50.998	0.683	1.361	1.557	0.908	1450	16.373	0.024	32.610	0.739	1.243	0.851	0.920
M.13	0.212	1520	79.982	0.038	22.393	0.791	0.602	0.589	0.561	2900	33.548	0.058	57.394	0.833	0.000	1.154	0.000
M.13	0.212	1520	79.982	0.038	22.393	0.791	0.737	0.693	0.767	2900	33.548	0.058	57.394	0.833	0.362	1.146	0.696
M.13	0.212	1520	79.982	0.038	22.393	0.791	0.867	0.829	0.910	2900	33.548	0.058	57.394	0.833	0.513	1.130	0.840
M.13	0.212	1520	79.982	0.038	22.393	0.791	1.008	1.013	0.984	2900	33.548	0.058	57.394	0.833	0.667	1.102	0.936
M.13	0.212	1520	79.982	0.038	22.393	0.791	1.117	1.178	1.000	2900	33.548	0.058	57.394	0.833	0.818	1.058	0.985
M.13	0.212	1520	79.982	0.038	22.393	0.791	1.224	1.376	0.979	2900	33.548	0.058	57.394	0.833	0.954	1.001	1.003
M.13	0.212	1520	79.982	0.038	22.393	0.791	1.300	1.531	0.942	2900	33.548	0.058	57.394	0.833	1.067	0.931	0.985
M.13	0.212	1520	79.982	0.038	22.393	0.791	1.346	1.630	0.879	2900	33.548	0.058	57.394	0.833	1.201	0.840	0.936
M.14	0.296	1520	59.080	0.037	33.379	0.795	0.825	0.802	0.763	1450	24.354	0.030	22.328	0.804	0.000	1.142	0.000

Table S2. Cont.

MAC		TURB ROT	TURB SPEC							PUMP ROT	PUMP SPEC						
HINE	DIAM	SPEED	SPEED	Q_{tBEP}	H_{tBEP}	E_{tBEP}	Q_t/Q_{tBEP}	H_t/H_{tBEP}	E_t/E_{tBEP}	SPEED	SPEED	Q_{pBEP}	H_{pBEP}	E_{pBEP}	Q_p/Q_{pBEP}	H_p/H_{pBEP}	E_p/E_{pBEP}
								P							EP	EP	P
M.14	0.296	1520	59.080	0.037	33.379	0.795	0.957	0.949	0.879	1450	24.354	0.030	22.328	0.804	0.382	1.134	0.747
M.14	0.296	1520	59.080	0.037	33.379	0.795	1.042	1.055	0.932	1450	24.354	0.030	22.328	0.804	0.503	1.121	0.858
M.14	0.296	1520	59.080	0.037	33.379	0.795	1.102	1.143	0.974	1450	24.354	0.030	22.328	0.804	0.633	1.102	0.933
M.14	0.296	1520	59.080	0.037	33.379	0.795	1.187	1.277	1.000	1450	24.354	0.030	22.328	0.804	0.785	1.063	0.983
M.14	0.296	1520	59.080	0.037	33.379	0.795	1.266	1.415	0.974	1450	24.354	0.030	22.328	0.804	0.926	1.012	1.002
M.14	0.296	1520	59.080	0.037	33.379	0.795	1.319	1.512	0.947	1450	24.354	0.030	22.328	0.804	1.092	0.930	0.983
M.14	0.296	1520	59.080	0.037	33.379	0.795	1.370	1.609	0.911	1450	24.354	0.030	22.328	0.804	1.237	0.835	0.933
M.14	0.296	1520	59.080	0.037	33.379	0.795	0.825	0.802	0.763	2900	48.708	0.030	22.328	0.804	0.000	1.148	0.000
M.14	0.296	1520	59.080	0.037	33.379	0.795	0.957	0.949	0.879	2900	48.708	0.030	22.328	0.804	0.281	1.147	0.621
M.14	0.296	1520	59.080	0.037	33.379	0.795	1.042	1.055	0.932	2900	48.708	0.030	22.328	0.804	0.443	1.137	0.807
M.14	0.296	1520	59.080	0.037	33.379	0.795	1.102	1.143	0.974	2900	48.708	0.030	22.328	0.804	0.636	1.111	0.931
M.14	0.296	1520	59.080	0.037	33.379	0.795	1.187	1.277	1.000	2900	48.708	0.030	22.328	0.804	0.789	1.075	0.981
M.14	0.296	1520	59.080	0.037	33.379	0.795	1.266	1.415	0.974	2900	48.708	0.030	22.328	0.804	0.972	1.010	1.000
M.14	0.296	1520	59.080	0.037	33.379	0.795	1.319	1.512	0.947	2900	48.708	0.030	22.328	0.804	1.131	0.929	0.981
M.14	0.296	1520	59.080	0.037	33.379	0.795	1.370	1.609	0.911	2900	48.708	0.030	22.328	0.804	1.254	0.847	0.931
M.15	0.334	1520	44.943	0.052	54.051	0.687	0.793	0.778	0.796	1450	19.169	0.038	36.076	0.770	0.000	1.120	0.000
M.15	0.334	1520	44.943	0.052	54.051	0.687	0.894	0.877	0.899	1450	19.169	0.038	36.076	0.770	0.287	1.119	0.649
M.15	0.334	1520	44.943	0.052	54.051	0.687	0.977	0.975	0.964	1450	19.169	0.038	36.076	0.770	0.465	1.111	0.844
M.15	0.334	1520	44.943	0.052	54.051	0.687	1.087	1.123	0.991	1450	19.169	0.038	36.076	0.770	0.677	1.078	0.961
M.15	0.334	1520	44.943	0.052	54.051	0.687	1.174	1.257	1.002	1450	19.169	0.038	36.076	0.770	0.841	1.041	0.993
M.15	0.334	1520	44.943	0.052	54.051	0.687	1.241	1.364	0.991	1450	19.169	0.038	36.076	0.770	0.957	1.007	1.000
M.15	0.334	1520	44.943	0.052	54.051	0.687	1.279	1.436	0.958	1450	19.169	0.038	36.076	0.770	1.096	0.954	0.993
M.15	0.334	1520	44.943	0.052	54.051	0.687	1.337	1.543	0.904	1450	19.169	0.038	36.076	0.770	1.276	0.866	0.961
M.16	0.404	1020	30.612	0.037	40.653	0.650	0.892	0.881	0.877	1450	16.591	0.044	48.674	0.721	0.000	1.169	0.000
M.16	0.404	1020	30.612	0.037	40.653	0.650	0.997	0.998	0.957	1450	16.591	0.044	48.674	0.721	0.226	1.165	0.555
M.16	0.404	1020	30.612	0.037	40.653	0.650	1.100	1.127	0.991	1450	16.591	0.044	48.674	0.721	0.366	1.159	0.763

Table S2. Cont.

MAC		TURB ROT	TURB SPEC							PUMP ROT	PUMP SPEC						
HINE	DIAM	SPEED	SPEED	Q_t/Q_{tBEP}	H_t/H_{tBEP}	E_t/E_{tBEP}	Q_t/Q_t	H_t/H_{tBE}	E_t/E_{tBEP}	SPEED	SPEED	Q_p/Q_{pBEP}	H_p/H_{pBEP}	E_p/E_{pBEP}	Q_p/Q_{pB}	H_p/H_{pB}	E_p/E_{pBE}
				BEP	BEP	BEP	BEP	P							EP	EP	P
M.16	0.404	1020	30.612	0.037	40.653	0.650	1.189	1.256	1.008	1450	16.591	0.044	48.674	0.721	0.534	1.132	0.902
M.16	0.404	1020	30.612	0.037	40.653	0.650	1.288	1.405	0.979	1450	16.591	0.044	48.674	0.721	0.696	1.091	0.971
M.16	0.404	1020	30.612	0.037	40.653	0.650	1.377	1.549	0.961	1450	16.591	0.044	48.674	0.721	0.869	1.016	0.999
M.16	0.404	1020	30.612	0.037	40.653	0.650	1.436	1.654	0.926	1450	16.591	0.044	48.674	0.721	1.042	0.913	0.971
M.17	0.219	1510	100.562	0.057	21.021	0.770	0.652	0.640	0.478	1450	42.414	0.042	13.431	0.854	0.000	1.195	0.000
M.17	0.219	1510	100.562	0.057	21.021	0.770	0.704	0.676	0.627	1450	42.414	0.042	13.431	0.854	0.306	1.197	0.585
M.17	0.219	1510	100.562	0.057	21.021	0.770	0.782	0.739	0.796	1450	42.414	0.042	13.431	0.854	0.462	1.184	0.761
M.17	0.219	1510	100.562	0.057	21.021	0.770	0.864	0.820	0.855	1450	42.414	0.042	13.431	0.854	0.590	1.163	0.866
M.17	0.219	1510	100.562	0.057	21.021	0.770	0.955	0.942	0.956	1450	42.414	0.042	13.431	0.854	0.716	1.132	0.936
M.17	0.219	1510	100.562	0.057	21.021	0.770	1.025	1.050	1.004	1450	42.414	0.042	13.431	0.854	0.851	1.084	0.983
M.17	0.219	1510	100.562	0.057	21.021	0.770	1.124	1.231	0.998	1450	42.414	0.042	13.431	0.854	0.991	1.016	1.001
M.17	0.219	1510	100.562	0.057	21.021	0.770	1.199	1.384	0.988	1450	42.414	0.042	13.431	0.854	1.128	0.924	0.983
M.17	0.219	1510	100.562	0.057	21.021	0.770	1.260	1.515	0.972	1450	42.414	0.042	13.431	0.854	1.256	0.821	0.936
M.18	0.334	1515	53.591	0.075	57.796	0.745	0.737	0.711	0.652	1450	24.802	0.060	34.672	0.810	0.000	1.156	0.000
M.18	0.334	1515	53.591	0.075	57.796	0.745	0.815	0.782	0.781	1450	24.802	0.060	34.672	0.810	0.327	1.150	0.741
M.18	0.334	1515	53.591	0.075	57.796	0.745	0.935	0.916	0.910	1450	24.802	0.060	34.672	0.810	0.453	1.131	0.864
M.18	0.334	1515	53.591	0.075	57.796	0.745	1.035	1.052	0.958	1450	24.802	0.060	34.672	0.810	0.604	1.099	0.951
M.18	0.334	1515	53.591	0.075	57.796	0.745	1.134	1.209	0.994	1450	24.802	0.060	34.672	0.810	0.732	1.057	0.988
M.18	0.334	1515	53.591	0.075	57.796	0.745	1.214	1.351	0.985	1450	24.802	0.060	34.672	0.810	0.872	1.002	1.000
M.18	0.334	1515	53.591	0.075	57.796	0.745	1.283	1.484	0.936	1450	24.802	0.060	34.672	0.810	1.018	0.928	0.988
M.19	0.404	1520	43.237	0.070	73.621	0.748	0.679	0.721	0.683	1450	17.343	0.052	50.711	0.750	0.000	1.117	0.000
M.19	0.404	1520	43.237	0.070	73.621	0.748	0.827	0.828	0.795	1450	17.343	0.052	50.711	0.750	0.266	1.123	0.600
M.19	0.404	1520	43.237	0.070	73.621	0.748	0.956	0.954	0.946	1450	17.343	0.052	50.711	0.750	0.427	1.108	0.800
M.19	0.404	1520	43.237	0.070	73.621	0.748	1.073	1.093	0.991	1450	17.343	0.052	50.711	0.750	0.615	1.085	0.933
M.19	0.404	1520	43.237	0.070	73.621	0.748	1.173	1.231	1.013	1450	17.343	0.052	50.711	0.750	0.786	1.048	0.987
M.19	0.404	1520	43.237	0.070	73.621	0.748	1.276	1.388	0.991	1450	17.343	0.052	50.711	0.750	0.963	0.995	1.000

Table S2. Cont.

MAC		TURB ROT	TURB SPEC							PUMP ROT	PUMP SPEC						
HINE	DIAM	SPEED	SPEED	Q_{tBEP}	H_{tBEP}	E_{tBEP}	Q_t/Q_{tBEP}	H_t/H_{tBEP}	E_t/E_{tBEP}	SPEED	SPEED	Q_{pBEP}	H_{pBEP}	E_{pBEP}	Q_p/Q_{pBEP}	H_p/H_{pBEP}	E_p/E_{pBEP}
M.19	0.404	1520	43.237	0.070	73.621	0.748	1.359	1.531	0.946	1450	17.343	0.052	50.711	0.750	1.216	0.893	0.987
M.20	0.419	1525	54.856	0.112	77.799	0.806	0.575	0.658	0.588	1450	20.982	0.088	56.310	0.810	0.000	1.119	0.000
M.20	0.419	1525	54.856	0.112	77.799	0.806	0.746	0.775	0.806	1450	20.982	0.088	56.310	0.810	0.374	1.114	0.765
M.20	0.419	1525	54.856	0.112	77.799	0.806	0.899	0.926	0.971	1450	20.982	0.088	56.310	0.810	0.540	1.096	0.888
M.20	0.419	1525	54.856	0.112	77.799	0.806	1.034	1.097	0.996	1450	20.982	0.088	56.310	0.810	0.658	1.076	0.950
M.20	0.419	1525	54.856	0.112	77.799	0.806	1.180	1.318	0.996	1450	20.982	0.088	56.310	0.810	0.790	1.043	0.987
M.20	0.419	1525	54.856	0.112	77.799	0.806	1.325	1.573	0.962	1450	20.982	0.088	56.310	0.810	0.954	0.990	1.000
M.20	0.419	1525	54.856	0.112	77.799	0.806	1.419	1.757	0.918	1450	20.982	0.088	56.310	0.810	1.133	0.919	0.987
M.21	0.269	1520	152.717	0.164	25.546	0.809	0.812	0.738	0.878	1450	62.249	0.141	18.017	0.881	0.000	1.286	0.000
M.21	0.269	1520	152.717	0.164	25.546	0.809	0.898	0.852	0.956	1450	62.249	0.141	18.017	0.881	0.335	1.256	0.681
M.21	0.269	1520	152.717	0.164	25.546	0.809	0.967	0.951	0.987	1450	62.249	0.141	18.017	0.881	0.434	1.235	0.795
M.21	0.269	1520	152.717	0.164	25.546	0.809	1.032	1.055	0.998	1450	62.249	0.141	18.017	0.881	0.580	1.178	0.909
M.21	0.269	1520	152.717	0.164	25.546	0.809	1.123	1.216	0.992	1450	62.249	0.141	18.017	0.881	0.723	1.107	0.977
M.21	0.269	1520	152.717	0.164	25.546	0.809	1.209	1.386	0.982	1450	62.249	0.141	18.017	0.881	0.861	1.008	0.999
M.21	0.269	1520	152.717	0.164	25.546	0.809	1.289	1.557	0.956	1450	62.249	0.141	18.017	0.881	1.023	0.883	0.977