



Facts. Did You Know That...

✓ ...rowing power has a very strong correlation with stroke rate ($r = 0.72-0.89$). The following tables will help you to assess power at different stroke rates in rowers' categories. The statistics were taken from the rowing biomechanics database and based on 250-500m samples. Usually, power over 2000m is 80-90% of the data below.

Men's Sculling Power (W):

Rate (1/min)	20	24	28	32	36	40
Very Low	210	278	340	397	449	495
Low	249	317	380	437	489	535
Average	289	357	420	477	528	574
High	329	397	459	516	568	614
Very High	369	437	499	556	608	654

Men's Lightweight Sculling Power (W):

Rate (1/min)	20	24	28	32	36	40
Very Low	146	223	289	342	384	414
Low	185	263	329	382	424	453
Average	225	303	368	422	464	493
High	265	343	408	462	503	533
Very High	305	382	448	502	543	573

Men's Sweep Power (W):

Rate (1/min)	20	24	28	32	36	40
Very Low	153	211	269	326	383	440
Low	192	251	309	366	423	480
Average	232	290	348	406	463	520
High	272	330	388	446	503	560
Very High	312	370	428	485	543	599

Men's Lightweight Sweep Power (W):

Rate (1/min)	20	24	28	32	36	40
Very Low	110	163	212	259	303	345
Low	150	202	252	299	343	385
Average	190	242	292	339	383	425
High	229	282	332	379	423	464
Very High	269	322	371	418	463	504

Women's Sculling Power (W):

Rate (1/min)	20	24	28	32	36	40
Very Low	117	163	200	229	250	262
Low	157	202	240	269	290	302
Average	197	242	280	309	329	342
High	236	282	319	348	369	382
Very High	276	322	359	388	409	421

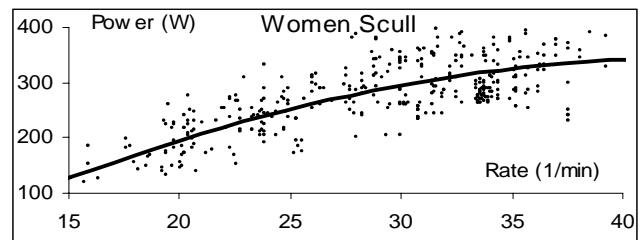
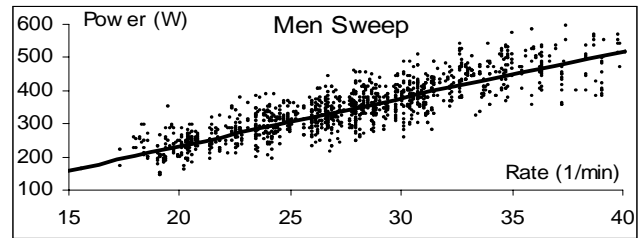
Women's Lightweight Sculling Power (W):

Rate (1/min)	20	24	28	32	36	40
Very Low	83	126	161	187	206	215
Low	123	166	201	227	245	255
Average	163	206	241	267	285	295
High	203	246	280	307	325	335
Very High	242	285	320	347	365	375

Women's Sweep Power (W):

Rate (1/min)	20	24	28	32	36	40
Very Low	94	119	145	172	200	229
Low	134	159	185	212	240	268
Average	174	199	225	252	280	308
High	213	239	265	292	319	348
Very High	253	279	305	332	359	388

✓ ...regression lines of power/rating dependencies are different in sculling and sweep rowing. They are curvilinear in all four sculling categories and practically linear in all three sweep groups (see examples below).



This corresponds with our previous findings about stroke rate emphasis in sweep gold medallists and stroke distance preference in sculling winners (1). From practical point, this means that high stroke rate in sweep rowing can increase performance, while ratings above 35 str/min in sculling bring less and less power and boat speed.

News

☺ Biomechanical services are now available for rowing clubs on a commercial basis. Contact the AIS Biomechanics department for further details.

References

📖 1. Kleshnev V. 2001. Stroke Rate vs. Distance in Rowing during the Sydney Olympics. Australian Rowing. 25(2), 18-21.

Contact Us:

✉ ©2002 Dr. Valery Kleshnev,
 AIS/Biomechanics
 POBox 176, Belconnen, ACT, 2616, Australia
 tel. (w) 02 6214 1659, (m) 0413 223 290
 fax: 02 6214 1593
 e-mail: kleshnev@ausport.gov.au