

Steps of the Czech Rowing

- Beginning
- Training volume
- Limits
- Times
- Discussion



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February 2001 - Turning point

Area of responsibility of the head coach

- programme of the national team
- programme of the junior team
- education of coaches
- nomination of crews
- set up the training volumes
- budget of the national team
- new information
- and many, many others
- budget for new material, boats...



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Crises of the Czech Rowing

1992 – 2000

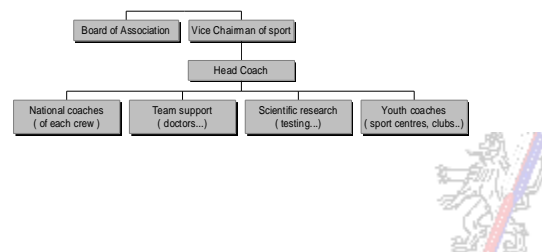
- OG 1996 in Atlanta: 3 crews, M1x final (Vaclav Chalupa)
- OG 2000 in Sydney: 1 crew, M1x, he was ill (Vaclav Chalupa)

February, 2000 → HEAD COACH



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The first structure



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Crises of the Czech Rowing

February, 2000 → HEAD COACH

The first question was - who is responsible for what – area of responsibility

The New System (2001 / 2004 - 2008)

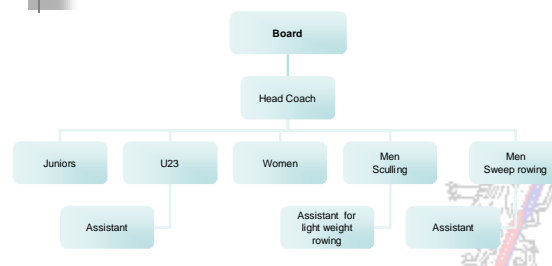


Board of the Czech Rowing Association, 23.2.2001



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The structure of the team of coaches



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The first steps

What was necessary to do at the beginning:

- built up the new training programmes
- change motivation for the training and racing
- explain modern rowing technique
- make out rules for testing
- set up limits, find evaluation criteria...
- **We had to change everything!!!**



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World Championships 2007

- M4x 5th place
- M4- 7th place
- M1x 2nd place
- W1x 4th place
- W2x 5th place

5 crews qualified



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World Championships 2003

- M4x 2nd place
- M2x 3rd place
- M1x 4th place
- W1x 4th place
- M2- 9th place

5 crews qualified !!!



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Olympic Games 2008

- M4x 10th place
- M2- 8th place
- M1x 2nd place
- W1x 5th place
- W2x 6th place
- M4- 5th place

Qualification in Poznań 2008
- 1 crew was qualified



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Olympic Games 2004

- M4x 2nd place
- M2x 5th place
- M1x 5th place
- W1x 4th place
- M2- 13th place
- LM2x 9th place
- M4- 8th place

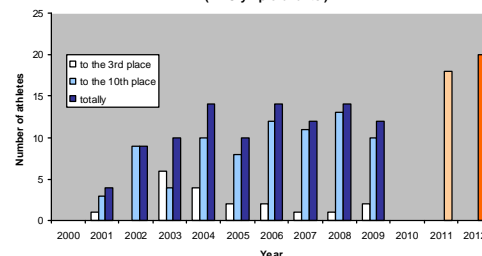
Qualification in Lucerne 2004
- 2 crews were qualified



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The position of Czech rowers WCH/OG 2000 - 2009

World Championships 2000 - 2009
(in Olympic events)



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Steps of the Czech Rowing

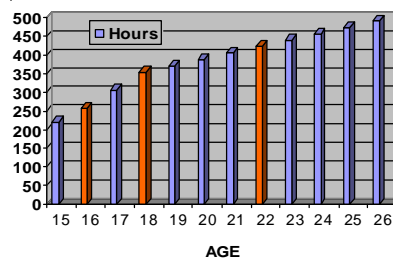
Training volume

- JWB, JMB: 15 – 16 years
- JW, JM: 17 – 18 years
- BW, BM: 19 – 22 years
- W, M: 23 -
- Discussion



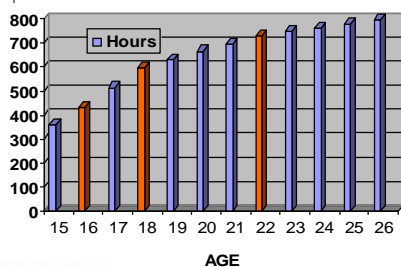
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Hours of Rowing



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Hours of the training



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Hours of Rowing

Age	Hours	Km
16	258	3 096
18	354	4 244
22	423	5 080
26	492	5 900



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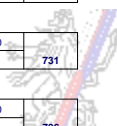
Hours of the training

		rowing		weight lifting	running	other training	totally
		min.	km.	min.	min	min.	hours
CZE							

WJ, MJ	min	21220	4244	5280	5500	3840	597
	hours	353,7		88	91,7	64	

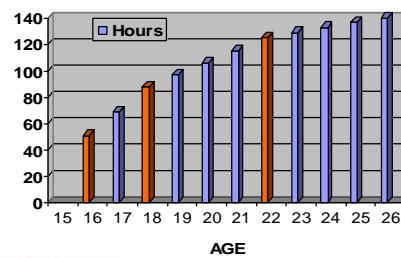
WB, MB	min	25400	5080	7512	7080	3840	731
	hours	423,3		125,2	118	64	

W, M	min	29500	5900	8400	5640	4200	796
	hours	492		140	94	70	



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Hours of Weight Lifting



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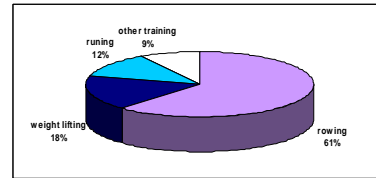
Hours of Weight Lifting

Age	Hours
16	51
18	88
22	125
26	140



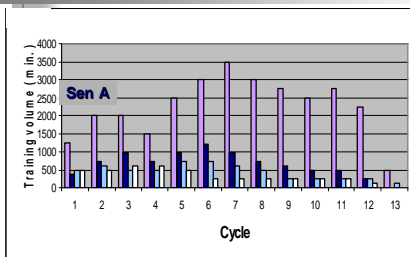
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Rowing during year – W,M



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Training in one year



4 weeks cycles
October -
September



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Intensity of Rowing – W,M

CZE	Rowing		la 6 - mmol		la 4 - 6 mmol		la 2 - 4 mmol		la - 2 mmol	
	min.	km.	min.	km.	min.	km.	min.	km.	min.	km.
1	1250	250	30	50	370	800				
2	2000	400	100	160	540	1200				
3	2000	400	100	160	540	1200				
4	1500	300	80	150	370	900				
5	2500	500	200	250	675	1375				
6	3000	600	290	390	1020	1300				
7	3500	700	320	600	1080	1500				
8	3000	600	360	540	720	1380				
9	2750	550	360	540	660	1190				
10	2500	500	320	480	600	1100				
11	2750	550	350	500	500	1400				
12	2250	450	260	310	330	1350				
13	500	100	45	35	40	380				
totaly	29500	5900	2815	4185	7445	15075				
hours	492		47	85	124	251				



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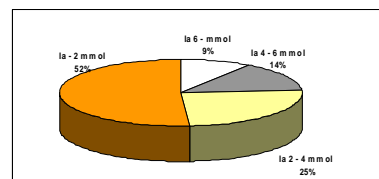
Rowing during year – W,M

Cycle	n	rowing	
		min.	km.
25.9-22.10.	1	1250	250
23.10-19.11.	2	2000	400
20.11-17.12.	3	2000	400
18.12-14.1.	4	1500	300
15.1-11.2.	5	2500	500
12.2-11.3	6	3000	600
12.3-8.4	7	3500	700
9.4-6.5.	8	3000	600
7.5-3.6.	9	2750	550
4.6-1.7.	10	2500	500
2.7-29.7.	11	2750	550
30.7-26.8.	12	2250	450
27.8-23.9.	13	500	100
totaly		29500	5900
hours		492	



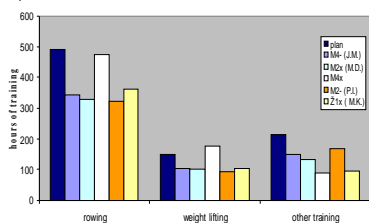
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Intensity of Rowing – W,M



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Training volume 2004



M4x
 Rowing 473 hrs
 Weight lifting 177 hrs
 Other training 91 hrs
Totally 741 hrs



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Steps of the Czech Rowing

Limits

- 2000 m
- 6000 m
- Power at the level of ANT
- Discussion



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Training volume 2009



Year after OG 2008
M4-
 Rowing 425 hrs
 Weight lifting 140 hrs
 Other training 145 hrs
Totally 710 hrs



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International level

Test	M	LM	W	LW	JM	JW
2000 m	5:55	6:12	6:42	7:10	6:15	7:00
ergo C2 6000 m	19:20	20:00	21:50	22:40	20:10	22:30
Power at ANT (W)	380	340	280	240	330	230



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Training volume 2009



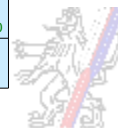
Year after OG 2008
M2-
 Rowing 425 hrs
 Weight lifting 145 hrs
 Other training 155 hrs
Totally 725 hrs



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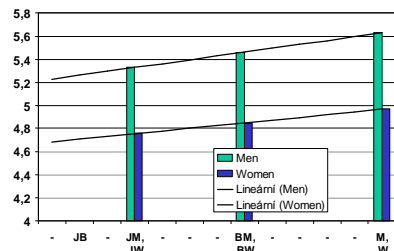
International level

Test	M	BM	JM	W	BW	JW
2000 m	5:55	6:06	6:15	6:42	6:53	7:00
ergo C2 6000 m	19:20		20:10	21:50		22:30
Power at ANT (W)	380	347	330	280	247	230



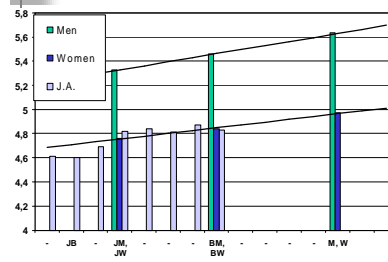
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Speed (m/s) – ergo 2000 m



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Speed (m/s) – ergo 2000 m



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Ondrej Synek and Mirka Knapkova

Test	M	O.S.	W	M.K.
2000 m	5:55	5:41,8	6:42	6:42,2
ergo C2 6000 m	19:20	18:17,5	21:50	21:18,1
Power at ANT (W)	380	465,3	280	302,0

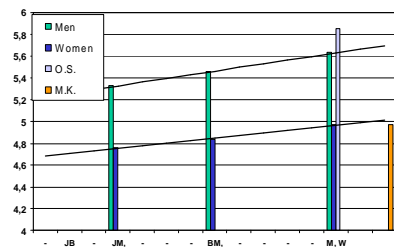
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ANT test

- 5 x 5 minutes
- Rest 2 minutes
- Last distance with full power
- During each rest – blood sample
- The Curve of lactic acid

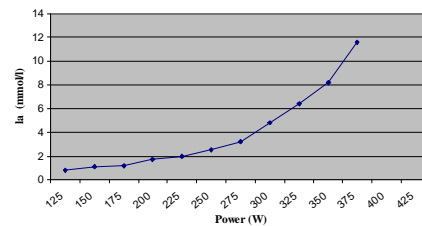
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Speed (m/s) – ergo 2000 m



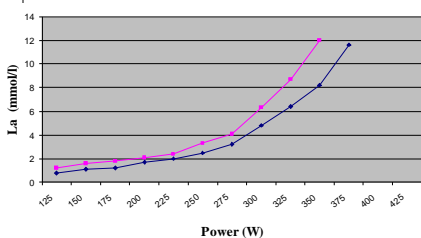
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ANT test



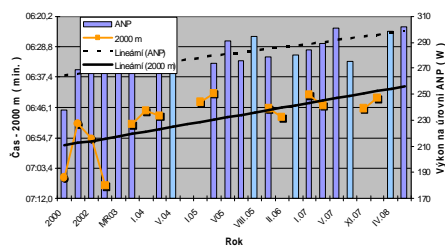
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ANT test



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Mirka Knapkova



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ANT test

- Training program 2 days before the test, regime...
- Test every 2 months → efficiency of the training process
- 4 zones of the training intensity
- la less than 2 mmol/l of blood
- la 2 – 4 mmol
- la 4 – 6 mmol
- la more than 6 mmol/l of blood

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Ondrej Synek



Born 1982
High 199 cm
Weight 100 kg

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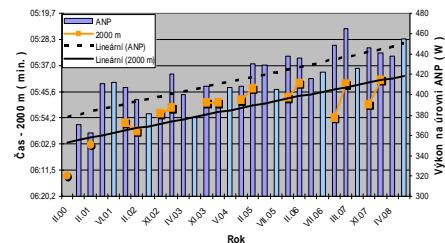
Mirka Knapkova



Born 1980
High 181 cm
Weight 69 kg

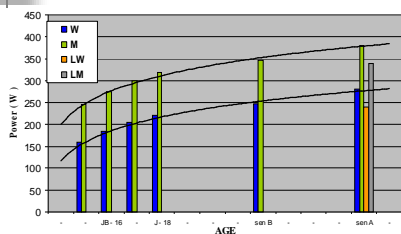
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Ondrej Synek



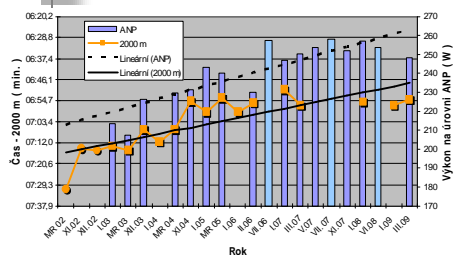
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ANT – steps in Power



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ANT – steps in Power – J.A.



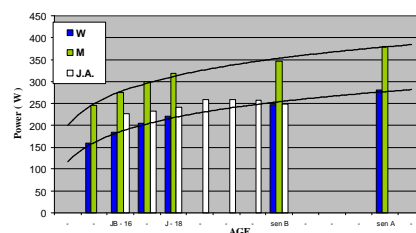
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ANT – steps in Power

Level of the Power at the ANT (W)			
JW - 15	JW - 16	JW - 17	JW - 18
160	185	205	220
JM - 15	JM - 16	JM - 17	JM - 18
245	275	300	320

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ANT – steps in Power – J.A.



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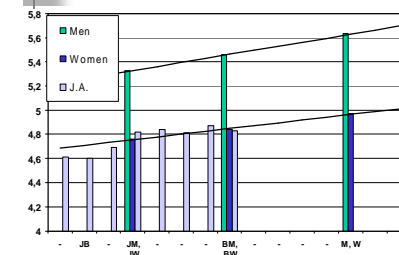
ANT – steps in Power – J.A.



WCHJ 2004 Gold JW2x
 WCHJ 2005 Gold JW2x
 WCH U23 2006 Gold BW2x
 WCH U23 2007 Gold BW2x
 WCH U23 2008 Silver BW2x
 WCH U23 2009 Gold BW1x

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Speed (m/s) – ergo 2000 m – J.A.



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System of Youth Rowing

- Identification test 6000 m
November, December 250 athletes 25 clubs

- Limits  Results 
- Money



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Results - 6k test – good times

Year	JM / 21:00	JW / 24:00	JMB / 22:00	JWB / 25:00	Totally
2000	8	5	11	6	2000: 30
2001	19	8	8	9	2001: 44
2002	13	11	11	8	2002: 43
2003	6	8	14	11	2003: 39
2004	17	5	13	7	2004: 42
2005	10	7	10	10	2005: 37
2006	6	8	18	7	2006: 39



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6k test 2000-2006 (2007 -)

JMB - 15	JMB - 16	JM - 17	JM - 18
22:30 21:35	22:00 21:35	21:30 21:10	21:00 20:45
JWB - 15	JWB - 16	JW - 17	JW - 18
25:00 24:10	24:30 24:10	24:00 23:50	23:30 23:30



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Steps of the Czech Rowing

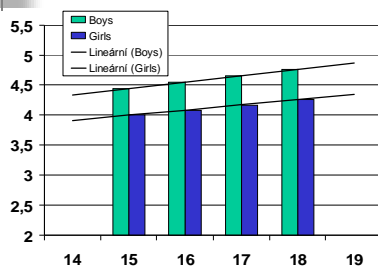
Times in rowing competitions

- Table of times
- Comparison of times
- Discussion



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6k test 2000-2006



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CZE table of times

Event	M	ML	BM	BML	JM	W	LW	BW	BWL	JW
2x	6:14	6:18	6:18	6:24	6:28	6:47	6:53	6:52	6:57	7:02
2-	6:21	6:28	6:25	6:31	6:35	6:58		7:03		7:13
1x	6:38	6:45	6:42	6:48	6:52	7:12	7:19	7:17	7:23	7:28
4-	5:51	5:57	5:55	6:00	6:04	6:26		6:30		6:40
4x	5:43	5:49	5:47	5:52	5:55	6:16	6:23	6:20	6:26	6:30
8+	5:30	5:36	5:34	5:38	5:42	6:02		6:06		6:15



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PC calculation – W1x

	Year	1st place	3rd place	5th place
1	1992	445.54	448.85	457.55
2	1993	446.00	448.14	451.54
3	1994	443.96	445.58	458.57
4	1995	4460	454.29	457.09
5	1996	452.21	457.20	465.08
6	1997	449.30	451.39	454.88
7	1998	445.09	450.89	457.29
8	1999	431.68	437.02	448.38
9	2000	448.14	448.99	457.88
10	2001	439.25	445.18	458.35
11	2002	427.71	432.07	444.69
12	2003	438.12	443.30	452.64
13	2004	438.12	443.10	451.86
14	2005	434.87	440.03	451.08
15	2006	433.81	438.10	450.52
16	2007	432.76	438.17	449.96
17	2008	431.71	437.25	449.40

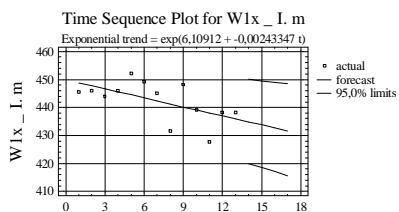
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Comparison

	M8+	M4x	M4-	LM4-	W8+	M2x	LM2x
Average times WCH, OG	5:38,6	5:51,6	5:54,4	6:02,5	6:17,6	6:14,3	6:23,0
World Records	5:19,9	5:37,7	5:41,3	5:45,6	5:56,6	6:04,0	6:10,8
Progn. AUS	5:19,0	5:33,0	5:41,0	5:45,0	5:53,0	6:00,0	6:06,0
Progn. Dr. P. Schwanitz	5:21,0	5:36,0	5:36,0	5:45,0	5:58,0	5:55,0	6:08,0
Progn. Dr. V. Kleshnev	5:24,2	5:36,2	5:38,7	5:46,0	5:57,9	6:03,0	6:03,4
Progn. CZE	5:30	5:43	5:51	5:57	6:02	6:14	6:18

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PC calculation – W1x – 1st place



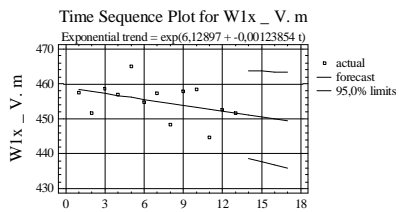
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Comparison

	W4x	M2-	M1x	W2x	LW2x	W2-	W1x
Average times WCH, OG	6:25,1	6:24,6	6:45,2	6:51,2	7:04,5	7:05,3	7:22,5
World Records	6:10,8	6:14,3	6:36,3	6:38,8	6:49,9	6:53,8	7:07,0
Progn. AUS	6:05,0	6:13,0	6:31,0	6:37,0	6:43,0	6:51,0	7:08,0
Progn. Dr. P. Schwanitz	6:14,0	6:04,0	6:28,0	6:36,0	6:52,0	6:50,0	7:04,0
Progn. Dr. V. Kleshnev	6:10,1	6:13,1	6:31,8	6:35,2	6:47,8	6:51,7	7:09,6
Progn. CZE	6:16	6:21	6:38	6:47	6:53	6:58	7:12

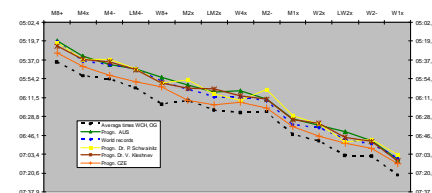
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PC calculation – W1x – 5th place



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Comparison



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Evaluation of times

- Difference between the table time and real time in competition.

Example. National trials → crew which has the smallest difference between table time and real time has probably the best level

- Per cent proportion between the table speed and real speed of the boat during race (more accurate, weather...)

Example: It is possible to evaluate the performance during the Distance Race for 8 000 m.



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CZE table vs. Winners of the OG 08

Event	Sat.	Event	Sun.
W1x	+10,34 s	LW2x	+1,74 s
M1x	+13,77 s	LM2x	-7,01 s
W2-	+22,60 s	LM4-	-9,24 s
M2-	+16,44 s	W4x	+0,06 s
W2x	+20,32 s	M4x	-1,67 s
M2x	+13,77 s	W8+	+3,34 s
M4-	+15,57 s	M8+	-6,11 s



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Evaluation of times 2000 m trials of the JB team

CREW	Event	Time	Speed	% of table speed	Order
Emr T. Mach J.	2- dci	6:02,65	4,14	81,69	1
Melichar P.	1x dci	6:18,31	3,97	81,69	2
Andrie J.	1x dci	6:21,08	3,94	81,09	3
Koloc J.	1x dci	6:25,79	3,89	80,10	4
Tetera J., Doležel L.	2- dci	6:11,26	4,04	79,79	5
Šimon M.	1x dci	6:29,31	3,85	79,36	6
Jacko T., Šlemar V.	2- dci	6:13,85	4,01	79,24	7
Juhaz G.	1x dci	6:32,27	3,82	78,76	8
Kopecká K.	1x dky	7:07,72	3,51	78,52	9
Plic J.	1x dci	6:34,22	3,80	78,37	10
Přihodová K.	1x dky	7:14,29	3,45	77,35	11
Ondřejko D.	1x dci	6:40,07	3,75	77,24	12
Bořuta J., Vrábec J.	2- dci	6:24,32	3,90	77,09	13



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New PC calculation – W1x?

	Year	1st place	3rd place	5th place
1	1992	445,54	448,85	457,55
2	1993	448,00	448,14	451,54
3	1994	443,96	445,56	458,57
4	1995	4460	454,29	457,09
5	1996	452,21	457,20	465,08
6	1997	449,30	451,38	454,68
7	1998	445,09	450,99	457,29
8	1999	431,88	437,02	448,38
9	2000	448,14	448,99	457,88
10	2001	439,25	445,18	458,35
11	2002	427,71	432,07	444,69
12	2003	438,12	443,30	452,64
13	2004	438,12	443,10	451,66
14	2005	434,87	440,03	451,08
15	2006	433,81	436,10	450,52
16	2007	432,76	438,17	449,96
17	2008	431,71	437,25	449,40



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Evaluation of times 8000 m trials of the sen A team

Order	Club	Crew	Time	Speed (m/s)	% of the table speed
1	VK Slavia Praha	M. Knapková	31:58,4	4,17	91,65
2	Slavia/Dukla	J. Liera, P. Matek	28:48,3	4,63	90,43
3	Dukla Praha	V. Mateček	30:31,4	4,37	90,10
4	Dukla Praha	P. Imre, A. Michálek	28:56,5	4,61	90,04
5	Dukla Praha	O. Vetešník	30:42,7	4,34	89,48
6	Dukla Praha	M. Švčák	30:55,7	4,31	88,67
7	Švédsko	L. Karonen	30:34,1	4,36	88,26
8	VK Slavia Praha	J. Handš	30:39,2	4,35	88,08
9	Švédsko	S. Karlsson	34:01,3	3,92	87,89
10	Dukla Praha	J. Kopač, J. Vetešník	30:10,8	4,42	87,67
11	Dukla Praha	V. Chalupa	30:45,1	4,34	87,65
12	Dukla Praha	T. Karsa	30:54,7	4,31	87,25
13	Dukla Praha	K. Neffe, J. Schinder	29:57,8	4,45	86,91



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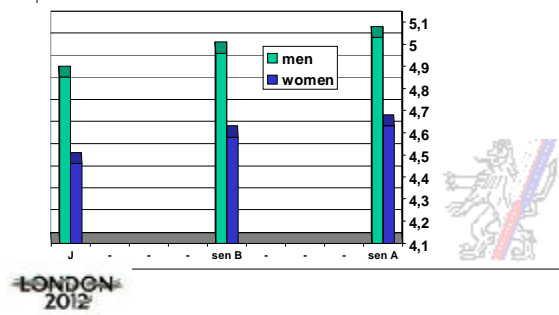
CZE table of times

Event	M	ML	BM	BML	JM	W	LW	BW	BWL	JW
2x	6:14	6:18	6:18	6:24	6:28	6:47	6:53	6:52	6:57	7:02
2-	6:21	6:28	6:25	6:31	6:35	6:58		7:03		7:13
1x	6:38	6:45	6:42	6:48	6:52	7:12	7:19	7:17	7:23	7:28
4-	5:51	5:57	5:55	6:00	6:04	6:26		6:30		6:40
4x	5:43	5:49	5:47	5:52	5:55	6:16	6:23	6:20	6:26	6:30
8+	5:30	5:36	5:34	5:38	5:42	6:02		6:06		6:15



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Steps in speed - 2000 m - 1x



Steps in speed - 2000 m – 8+

