

JALGRATTURI KOORMUSTEST

Kert Martma

TLÜ Terviseteaduste ja Spordi Instituudi Kinesioloogia Uuringute Keskuses teadur Indrek Rannama juures

06. märts 2013. a.

				Võimsus (W)	Suhteline võimsus (W/kg)
Pikkus		1,850 m			
Kaal		80,4 kg			
Kehamassi indeks		23,5			
Anaeroobne lävi		184 L/min		362	4,50
Aeroobne lävi		148 L/min		235	2,92
SLS-max		193 L/min		413 (peak 425W)	5,14 (5,29)
Spurdi võimsus (10 sek)	Maksimaalne	103	p/min	1437	17,87
	Keskmine	98		1135	14,12
	Maksimaalne	124	p/min	1569	19,51
	Keskmine	118		1052	13,08
	Maksimaalne	143	p/min	1328	16,52
	Keskmine	137		946	11,77
Anaeroobne võimsus (60 sek)	Maksimaalne	111	p/min	1029	12,80
	Keskmine	108		592	7,36
	1. 20 sek	108	p/min	723	8,99
	2. 20 sek	107		595	7,40
	3. 20 sek	108		460	5,72

Treeningtsoonid	SLS		Töö kestvus	Ainevahetus
Taastav	max	129	60 min	Aeroobne
Baasvastupidavus/ Rasva-ainevahetus	min	129	alates 60 min	
	max	151		
Lihasvastupidavus/ Tempovastupidavus	min	151	10-120 min	
	max	173		
Segarežiimis töö/ maksimaalne vastupidavus	min	173	10 min	Aeroobne/ anaeroobne
	max	186	60 min	
Anaeroobne vastupidavus	min	184	10 sek	Anaeroobne
	max	193	30 min	

TESTI KOKKUVÕTE:

VO₂ max – 5,3 L/min (65,79 ml/min/kg)

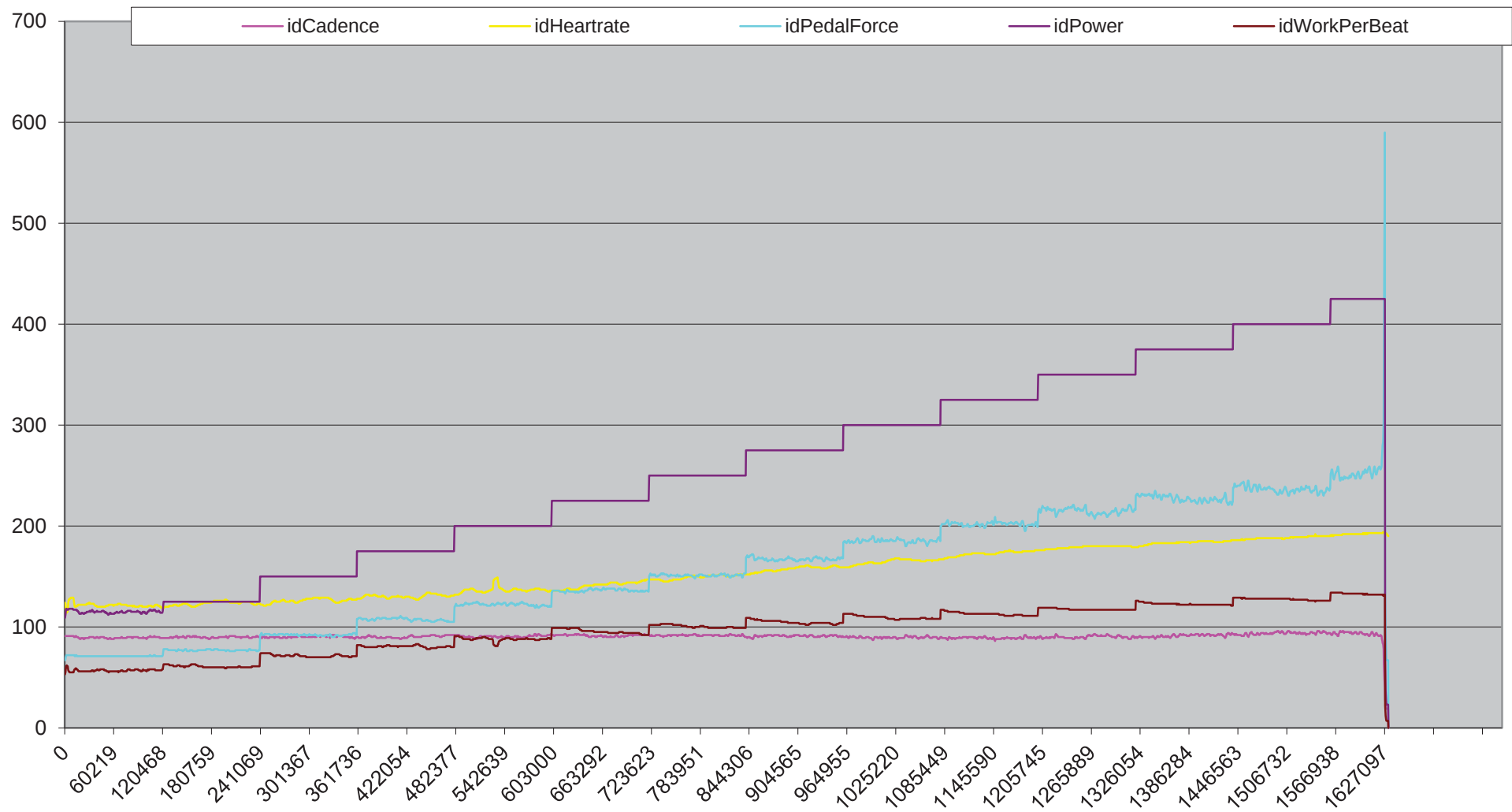
VCO₂ max – 5,9 L/min

VE – 221 L/min

Max võimsus – 425 W (≈ 1 min 8 sek)

Max laktaat – 10,3

Koormustesti graafik



Last name: MARTMA First name: KERT

ID code: 204 Sex: M Age: 29 Height (cm): 185.0 Weight (Kg): 80.4 HR max (bpm): 192 Last turbine calibration: 6.03.2013	Test number: 438 Test date: 6.03.2013 Test time: 13:16 N. of steps: 1016 Duration (hh:mm:ss): 00:28:18 BSA (m²): 2.0 Last Gas calibration: 6.03.2013	Barometric press. (mmHg): 743 Temperature (degrees C): 21 STPD: 0.806 BTPS insp: 1.118 BTPS exp: 1.020 BMI (Kg/m²): 23.4
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Notes:

VO2/Kg =64,5ml/min/Kg
VO2 =5182,8ml/min
VE =221l/min
HR =194bpm
MaxLT =10,30mmol

	Rf b/min	VE l/min	VO2 ml/min	VCO2 ml/min	VE/VO2 ---	VO2/Kg ml/min/Kg	R ---	FeO2 %	FeCO2 %	HR bpm	VO2/HR ml/bpm
Phase n. 1 -----	Start: 00:00:00			End: 00:00:01			Power: 0, Revolution: 0, N/A: 0				
Min	43.1	17.6	722	623	20.8	8.99	0.86	14.71	5.33	116	6.2
Max	43.1	17.6	722	623	20.8	8.99	0.86	14.71	5.33	116	6.2
Average	43.1	17.6	722	623	20.8	8.99	0.86	14.71	5.33	116	6.2
Trend	43.1	11.7	481	415	13.8	5.99	0.57	9.80	3.55	77	4.1
Phase n. 2 Exercise	Start: 00:00:03			End: 00:27:04			Power: 100, Revolution: 90, N/A: 0				
Min	19.0	27.8	1184	1009	20.6	14.73	0.80	14.83	3.38	117	10.1
Max	70.5	220.8	5157	5864	44.2	64.14	1.19	17.73	5.13	193	27.4
Average	39.7	110.0	3712	3653	27.7	46.16	0.95	16.05	4.49	160	22.5
Trend	69.9	210.2	4748	5545	43.3	59.06	1.16	17.67	3.45	192	24.6
Phase n. 3 Recovery	Start: 00:27:05			End: 00:28:18			Power: 0, Revolution: 0, N/A: 0				
Min	33.1	84.8	1571	2426	38.2	19.54	1.11	17.28	3.15	157	9.5
Max	69.3	208.0	4714	5535	62.7	58.64	1.60	18.40	3.81	193	24.4
Average	53.0	148.9	3002	3924	50.7	37.34	1.36	17.93	3.46	176	16.7
Trend	39.6	104.3	1655	2535	61.7	20.59	1.53	18.36	3.19	157	10.5



Tallinna Ülikool
Terviseteaduste ja Spordi Instituut
Töövõime testimise keskus
koormustest@tlu.ee
www.tlu.ee/tsi

Last name: MARTMA First name: KERT

ID code: 204

Sex: M

Age: 29

Height (cm): 185.0

Weight (Kg): 80.4

HR max (bpm): 192

Last turbine calibration: 6.03.2013

Test number: 438

Test date: 6.03.2013

Test time: 13:16

N. of steps: 1016

Duration (hh:mm:ss): 00:28:18

BSA (m²): 2.0

Last Gas calibration: 6.03.2013

Barometric press. (mmHg): 743

Temperature (degrees C): 21

STPD: 0.806

BTPS insp: 1.118

BTPS exp: 1.020

BMI (Kg/m²): 23.4

Notes:

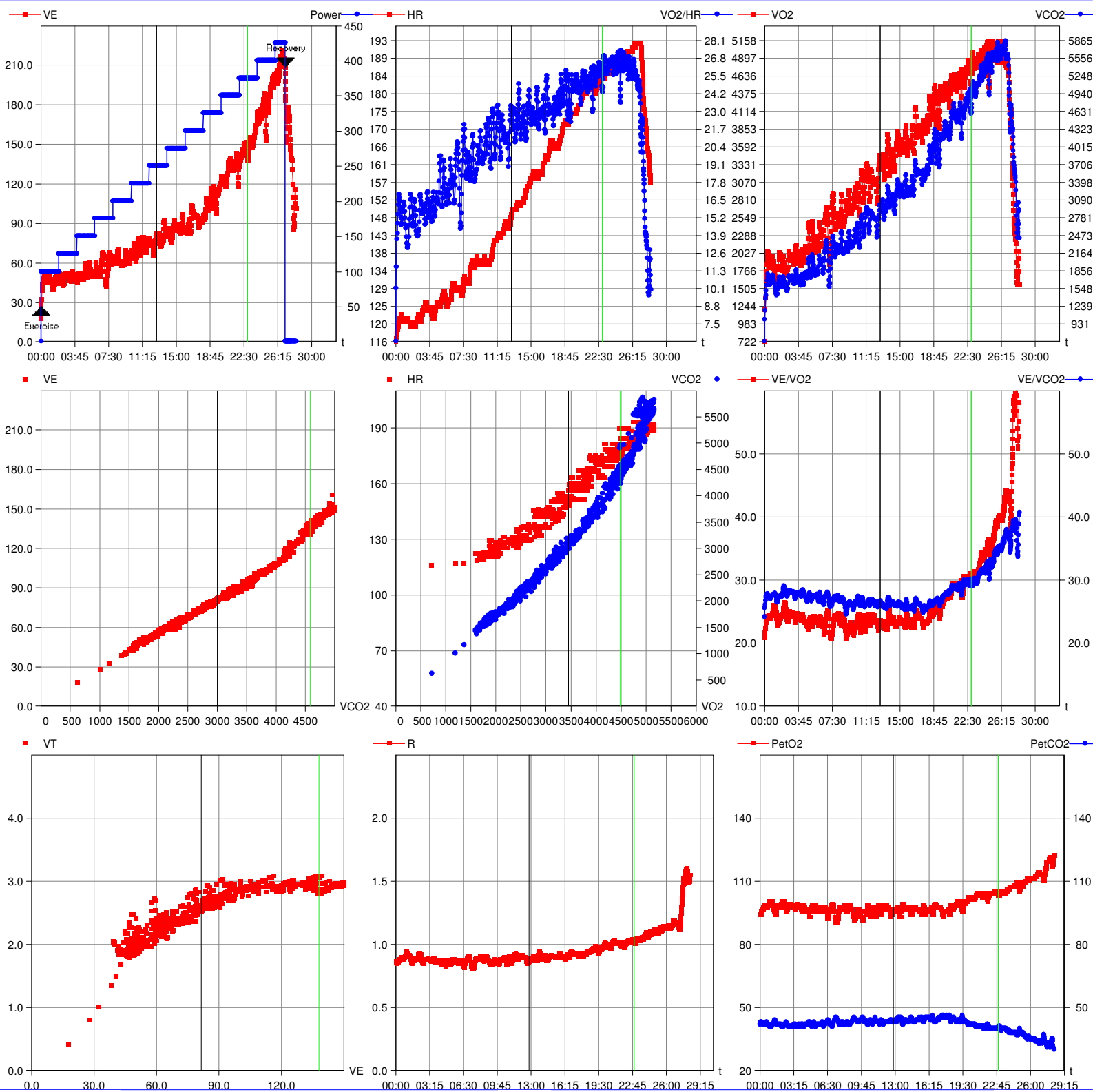
VO₂/Kg =64,5ml/min/Kg

VO₂ =5182,8ml/min

VE =221l/min

HR =194bpm

MaxLT =10,30mmol

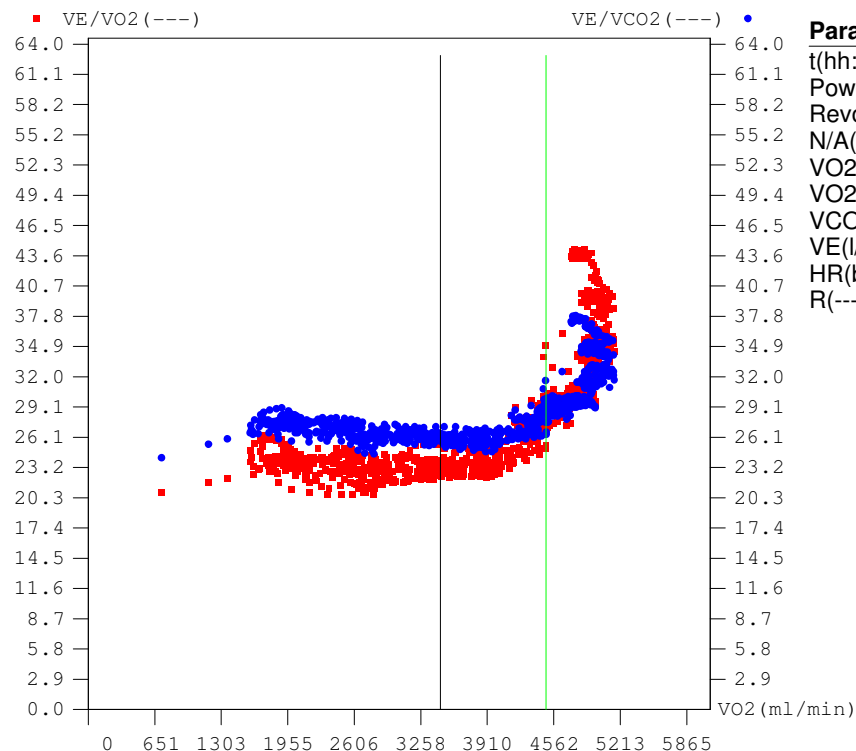
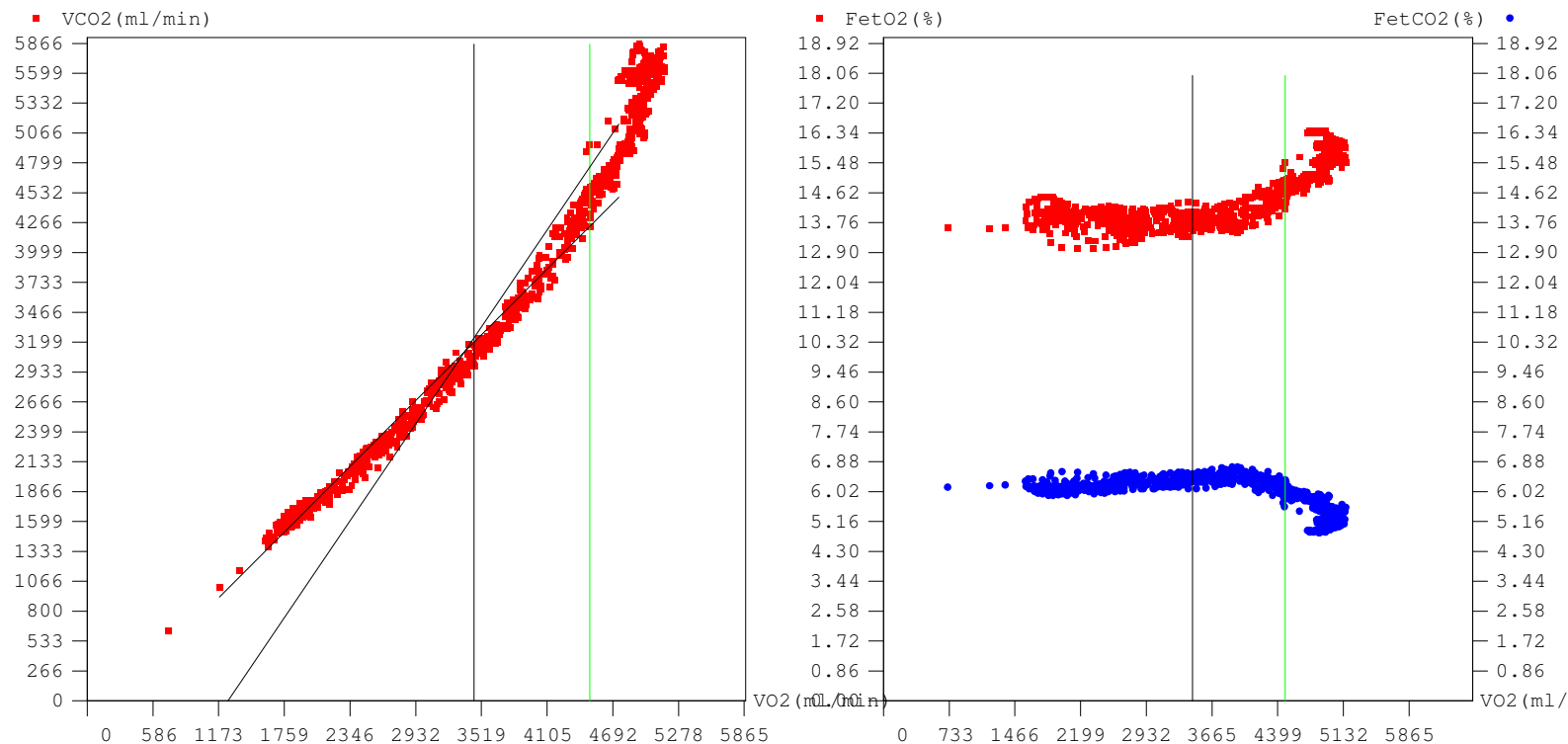


Last name: **MARTMA** First name: **KERT**

ID code: **204** Test number: **438** Barometric press. (mmHg): **743**
Sex: **M** Test date: **6.03.2013** Temperature (degrees C): **21**
Age: **29** Test time: **13:16** STPD: **0.806**
Height (cm): **185.0** N. of steps: **1016** BTPS insp: **1.118**
Weight (Kg): **80.4** Duration (hh:mm:ss): **00:28:18** BTPS exp: **1.020**
HR max (bpm): **192** BSA (m²): **2.0** BMI (Kg/m²): **23.4**
Last turbine calibration: **6.03.2013** Last Gas calibration: **6.03.2013**

Notes:

VO₂/Kg =64,5ml/min/Kg
VO₂ =5182,8ml/min
VE =221l/min
HR =194bpm
MaxLT =10,30mmol



Parameter	Values @LT	@VO2max	% Max	Values @RC
t(hh:mm:ss)	00:12:50	00:27:04	47.4%	00:22:55
Power(Watt)	250	425	58.8%	375
Revolution(RPM)	90	90	100.0%	90
N/A(---)	0	0	0.0%	0
VO2(ml/min)	3453	4867	70.9%	4490
VO2/Kg(ml/min/Kg)	42.95	59.03	72.7%	55.85
VCO2(ml/min)	3001	5543	54.1%	4579
VE(l/min)	81.5	209.9	38.8%	137.8
HR(bpm)	148	193	76.6%	184
R(---)	0.86	1.16	74.4%	1.01

Last name: **MARTMA** First name: **KERT**

ID code: 204	Test number: 438	Barometric press. (mmHg): 743
Sex: M	Test date: 6.03.2013	Temperature (degrees C): 21
Age: 29	Test time: 13:16	STPD: 0.806
Height (cm): 185.0	N. of steps: 1016	BTPS insp: 1.118
Weight (Kg): 80.4	Duration (hh:mm:ss): 00:28:18	BTPS exp: 1.020
HR max (bpm): 192	BSA (m ²): 2.0	BMI (Kg/m ²): 23.4
Last turbine calibration: 6.03.2013	Last Gas calibration: 6.03.2013	

Test Information

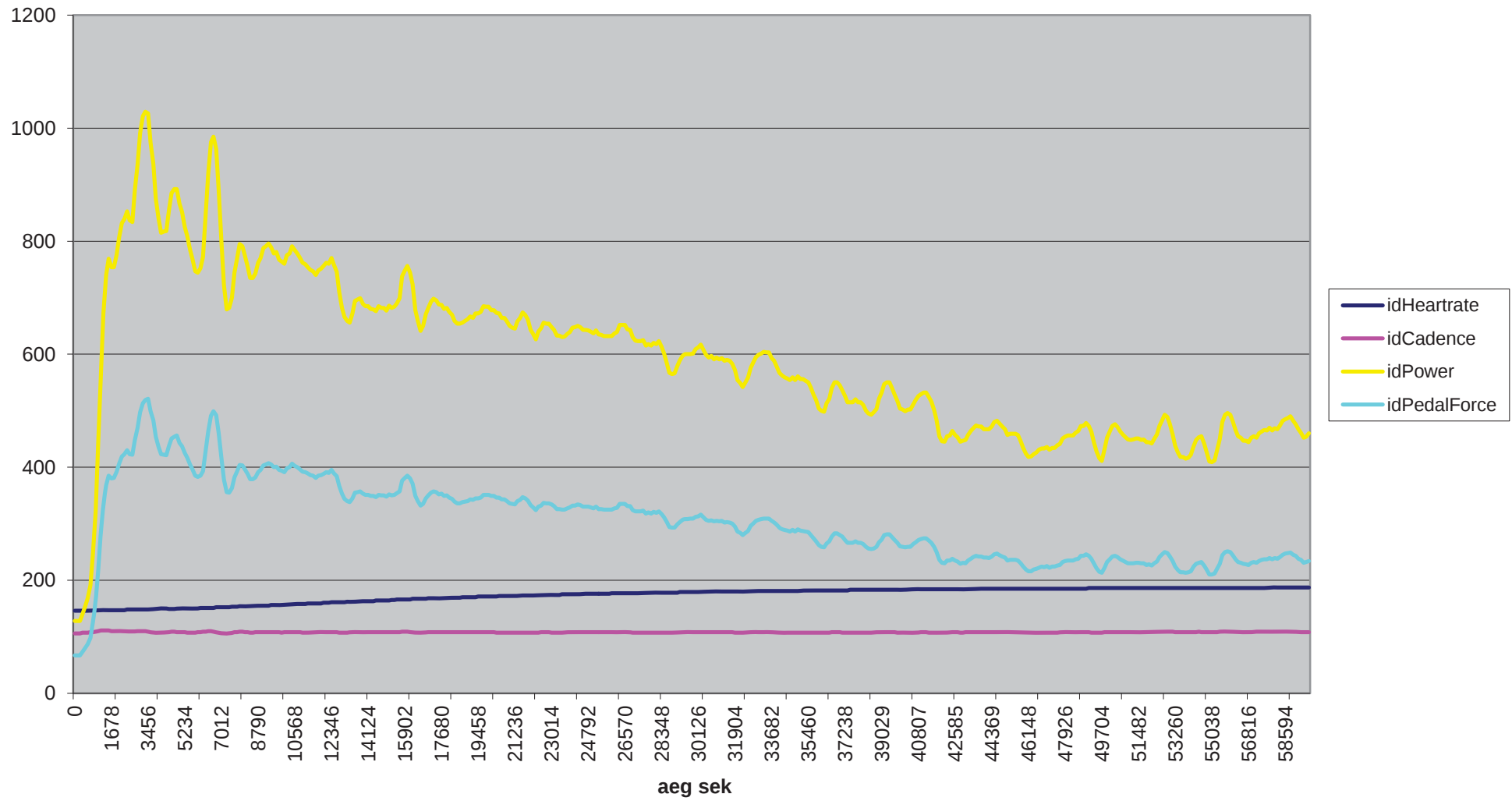
Test Duration: 00:28:18 Exercise duration: 00:27:01
Ergometer: Ergoline900 Protocol: velo2
Test type: Reason for Test:
Physician: Technician:

Reasons for Stopping Test:

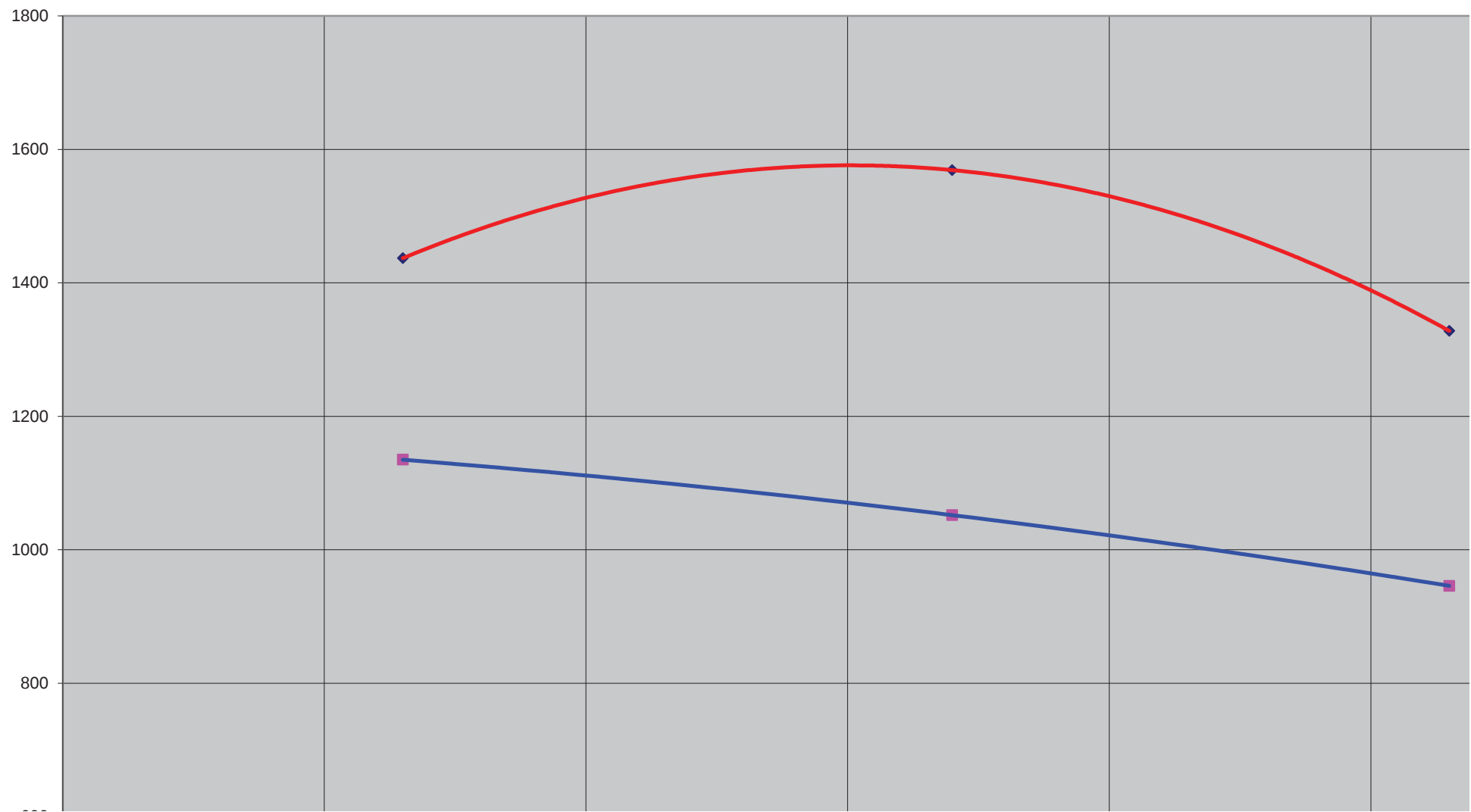
Subject's Response:

Spirometry	Pre Ex	Pred	%Pred	Post Ex	%Pre Ex			
FVC (l)	---	5.56	---	---	---			
FEV1 (l)	---	4.62	---	---	---			
MVV (l/min)	---	158	---	---	---			
IC (l)	---	---	---	---	---			
Exercise Testing	Rest	Warm-up	LT	RC	Peak	Pred	%Pred	Recov+2min
t (hh:mm:ss)	---	---	00:12:50	00:22:55	00:27:04	---	---	00:01:13
Power (Watt)	---	---	250	375	425	262	162	---
Revolution (RPM)	---	---	90	90	90	---	---	---
Metabolic Response	Rest	Warm-up	LT	RC	Peak	Pred	%Pred	
VO2 (ml/min)	---	---	3453	4490	4867	3477	140	
VO2/Kg (ml/min/Kg)	---	---	42.95	55.85	59.03	43.24	136	
METS (---)	---	---	12.2	15.9	16.8	12.3	136	
R (---)	---	---	0.86	1.01	1.19	---	---	
Ventilatory Response	Rest	Warm-up	LT	RC	Peak	Pred	%Pred	
VE (l/min)	---	---	81.5	137.8	209.9	184.9	113	
BR (%)	---	---	55	25	-13	30.00	-43	
VT (l)	---	---	2.533	2.833	2.995	---	---	
Rf (b/min)	---	---	32.2	48.6	70.0	50.0	140	
IC (l)	---	---	---	---	---	---	---	
VD/VT (---)	---	---	0.21	0.24	0.31	---	---	
Cardiovascular Response	Rest	Warm-up	LT	RC	Peak	Pred	%Pred	
HR (bpm)	---	---	148	184	193	192	100	176
HRR (%)	---	---	22	4	---	15	---	---
VO2/HR (ml/bpm)	---	---	23.3	24.4	24.5	18.1	135	15.9
Qt (l/min)	---	---	26.2	29.1	29.7	---	---	23.8
SV (ml/beat)	---	---	177	158	154	---	---	135
P Syst (mmHg)	---	---	---	---	---	---	---	---
P Diast (mmHg)	---	---	---	---	---	---	---	---
DP (mmHg/min)	---	---	---	---	---	---	---	---
ST V5 (mm)	---	---	---	---	---	---	---	---
S V5 (mV/sec)	---	---	---	---	---	---	---	---
Gas Exchange	Rest	Warm-up	LT	RC	Peak	Pred	%Pred	
PetCO2 (mmHg)	---	---	43	40	34	---	---	
PetO2 (mmHg)	---	---	96	103	113	---	---	
VE/VO2 (---)	---	---	23.0	30.0	43.3	---	---	
VE/VCO2 (---)	---	---	26.5	29.4	37.1	---	---	
SpO2 (%)	---	---	---	---	---	---	---	
Other Indexes	Meas.	Pred						
VE/VCO2 slope	24.8	---						
VO2/WR slope (mlO2/watt)	10.9	10.0						
lowest VE/VCO2	24.5	---						

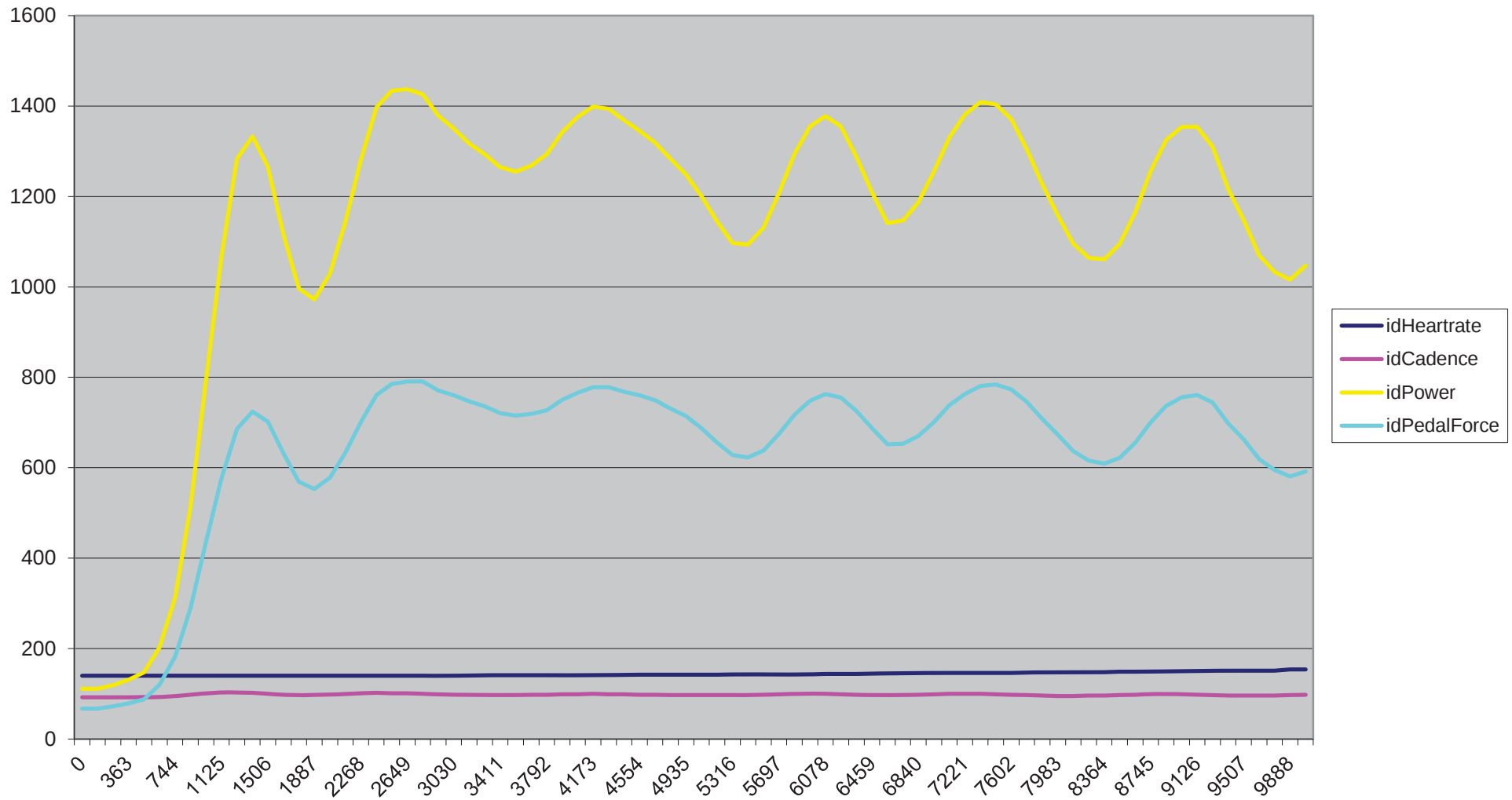
60 sekundi test



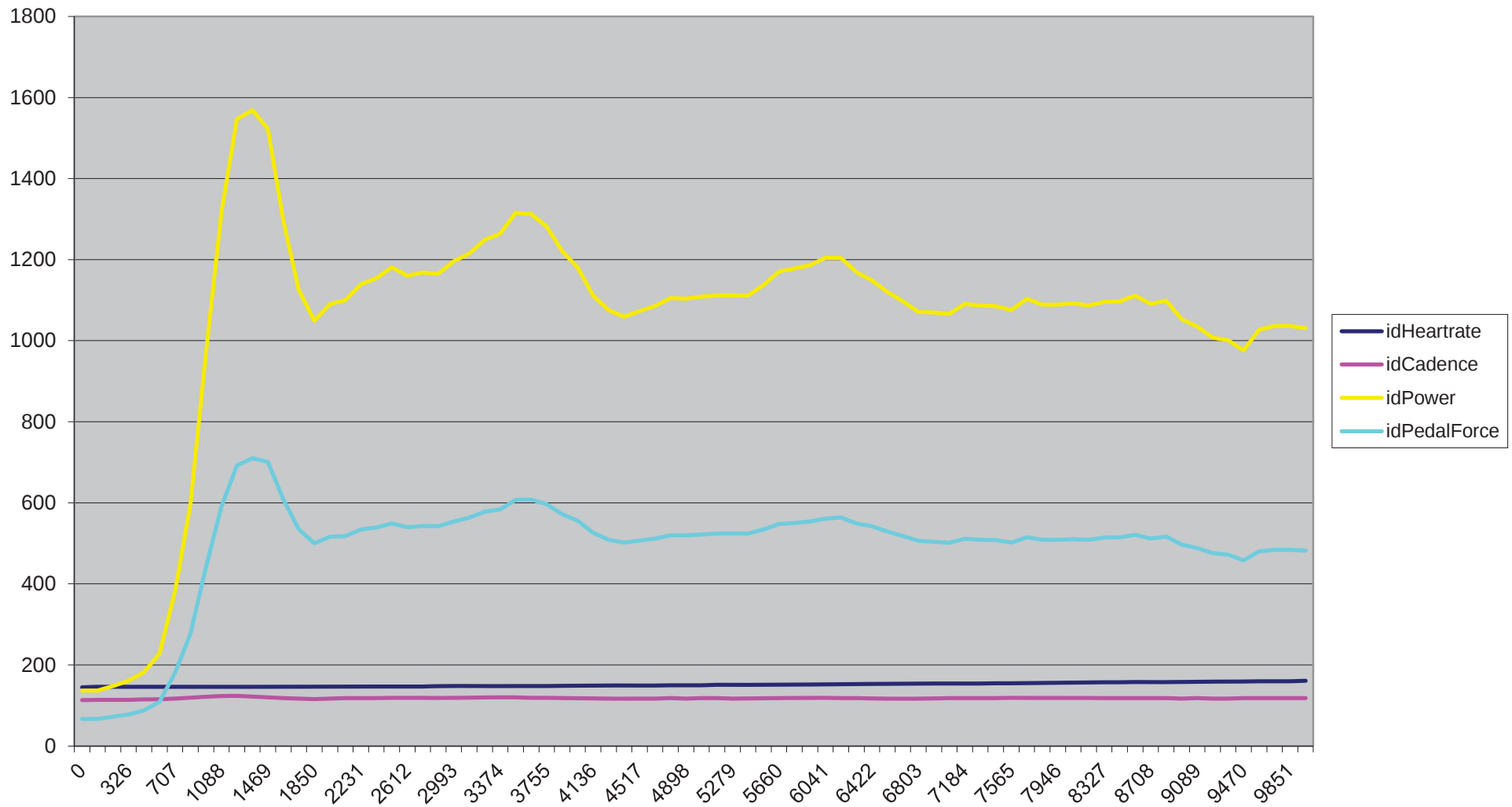
Spurdivõimsus erinevatel sagedustel



Spurt 100 p/min



Spurt 120 p/min



Spurt 140 p/min

