Graded Exercise Test Report

Maximal Metrics

Speed	VO2max	Heart Rate
11.9 km/h	46.6 mL/kg/min	169 bpm

Ventilation	Tidal Volume	Respiratory Frequency
112 L/min	2.1 L	66 bpm

The maximum value for each metric reached during the test.

Ventilatory Thresholds

	VT1	VT2	
Heart Rate	124	161	bpm
Speed	8.2	11.1	km/h
Calories	655	879	kcal/hr

Ventilatory thresholds are transitions in breathing patterns. VT1 marks ventilation increasing faster than VO2. VT2 is the point of sustainable output.

How Your VO2max Compares to Others



This scale shows how your VO2max compares to statistical norms for you to track changes over time.

Training Zones

	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
	Warm Up	Fat Burning	Endurance	Vigorous	Maximal
Heart Rate [bpm]	112	136	153	169	
Calories [kcal/hr]	514	628	824	910	
Speed [km/h]	7.3	8.9	10.6	11.7	

Training Zones are calculated using your ventilatory thresholds to accurately determine your optimal training intensities, based on your unique physiology. If your thresholds cannot be found, Training Zones are calculated based on the relationship between your VO2, heart rate, and mechanical output in terms of power or speed.

Workout Name	Athlete Name		Weight
Sub max step test 29			67.6 kg
Test Date - UTC	**Date of Birth**	**Sex**	**Height**
2021-08-05 9:08 AM	1997-02-17 (24)	Male	182.9 cm

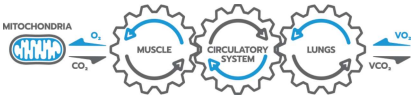
Elapsed	Data Average	PDF Version	Notes
00:22:35	30s	1.5.1.0	
User Piece Size	**Mask Size**		
Medium	Small		

This product is not intended to diagnose, treat, cure, or prevent any disease.
Consult your physician before starting any dietary or fitness program.

Learn the Fundamentals

Maximal Oxygen Consumption

Maximal oxygen consumption (VO2max) describes the bodies' capacity to maximally uptake oxygen from the environment and use it in skeletal muscle during intense full-body exercise and is considered the gold-standard measurement for cardiorespiratory fitness.



What determines VO2max?

When oxygen enters the body it enters through the lungs, and is loaded onto red blood cells, which are then pumped by the heart to muscles where oxygen is ultimately converted to water to synthesize energy for continued muscle contraction. Therefore, VO2max is determined by the integration of all the parts necessary for transport, delivery and utilization. There are four main determinants of VO2max:



1) Pulmonary Diffusion Capacity

The ability of the lungs to uptake large volumes of air and exchange oxygen and carbon dioxide through the alveoli.

2) Cardiac Output

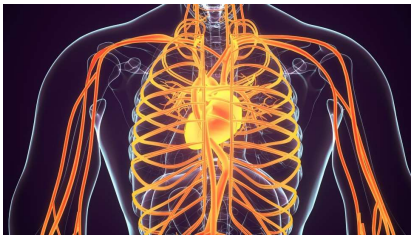
The ability of the heart to pump large volumes of oxygenated blood.

3) Oxygen Carrying Capacity of the Blood

The amount of oxygen that can transported to the muscle.

4) Skeletal Muscle Oxygen Extraction

The muscle's ability to uptake and utilize oxygen.



While a VO2max test does not determine which system is limiting performance, gaining an understanding of the physiology behind VO2max can help you make informed decisions for exercise prescription.

Interpret Your Workout

How Your VO2 Compares to Others

Your measured VO2max is a gold-standard. Here we compare it across the population based on age, gender, and weight. Lower VO2max is associated with an increased risk of cardiovascular disease, while higher VO2max is associated with decreases in all-cause mortality.

Good VO2max

A score of 99% means you're in the top 1% of your peers in terms of VO2max. A good VO2max correlates strongly with fitness capability and a reduction in all-cause mortality.



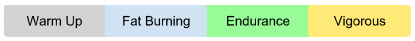
Poor VO2max

A score of 10% is low but it means you have plenty of room for improvement. Today is the best day to begin a new lifestyle.



Use Your Training Zones

Use these training zones to set the intensity of your regular workouts. Determining training zones from a VO2max test is much more accurate than doing so by estimation or with a fitness tracker.



Technical Details

VO2max is the maximum value of the VO2 trend after applying a 60-second moving average. The same logic applies to the displayed heart rate and intensity values.

When your ventilatory thresholds are detected, your Training Zones are optimized for you by using the thresholds to accurately identify the workloads which demarcate each zone. If your thresholds cannot be detected, Training Zones are calculated by the %VO2max method, which can be found in the ACSM Guidelines. This uses the linear relationship between your VO2, load, and heart rate.

Train Your VO2

Improve VO2max

Wherever your VO2max falls in comparison to others, the good news is that it is highly trainable. Through concerted training, VO2max can be increased by 10 - 25%. Gradual introduction to the following workouts will lead to the most maintainable and consistent progress towards increasing your fitness.

There are a few different exercise modalities that have been shown to most effectively increase VO2max; these range from relatively short (30s) intense intervals, to longer (30min) less intense intervals.

Sprint Interval Training (SIT)

Exercise in Zone 5 for 30s then rest for 2-4 minutes. Repeat this 4-6 times.

High Intensity Interval Training (HIIT)

Exercise in Zone 3 or 4 for 3-5 minutes then rest for 3-5 minutes. Repeat this 3-5 times.

Medium Intensity Continuous Training (MICT)

Exercise steadily in Zone 2-3 for 20-45min.

Practical Recommendations

Of the above training modalities start with the one you have done the LEAST. Slowly introduce 1-2 VO2max workouts into your weekly routine. Days before and after VO2max workouts should be VERY EASY recovery (i.e. Zone 1-2 ONLY). Follow this training plan for 4-6 weeks, then switch out the style of VO2max workout for another every 4-6 weeks. After each 4 to 6 week phase reassess VO2max to track your progress.

A proper training plan should also include strength training, proper warm-ups, and mobility.



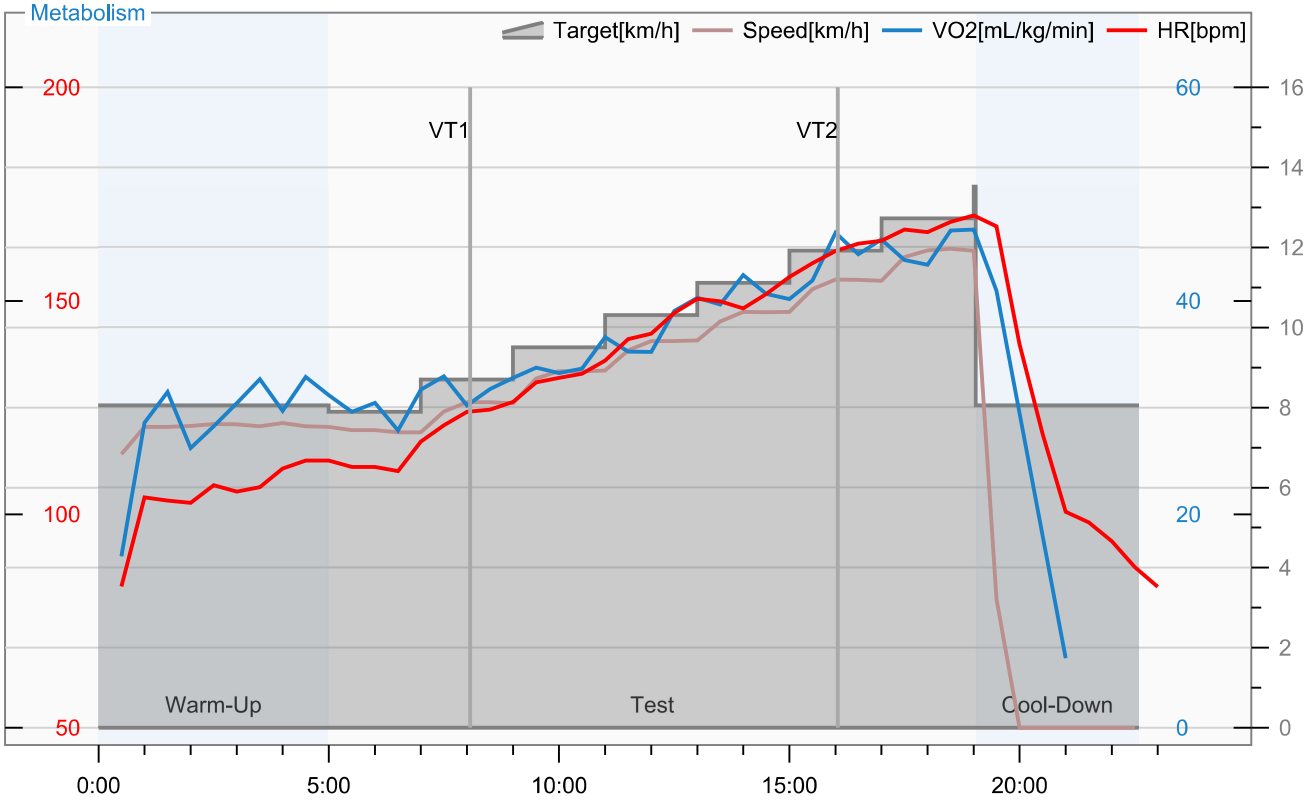
Workout Guidelines

Type	Frequency	Repetitions	Duration	Intensity	Rest	Ratio
SIT	3x per week	4 - 6	30s	All-out	4min	1:8
HIIT		3 - 5	3 - 5min	As hard as possible	3 - 5min	1:1 or 5:2
MICT		1	20 - 45min	Just over threshold	N/A	N/A

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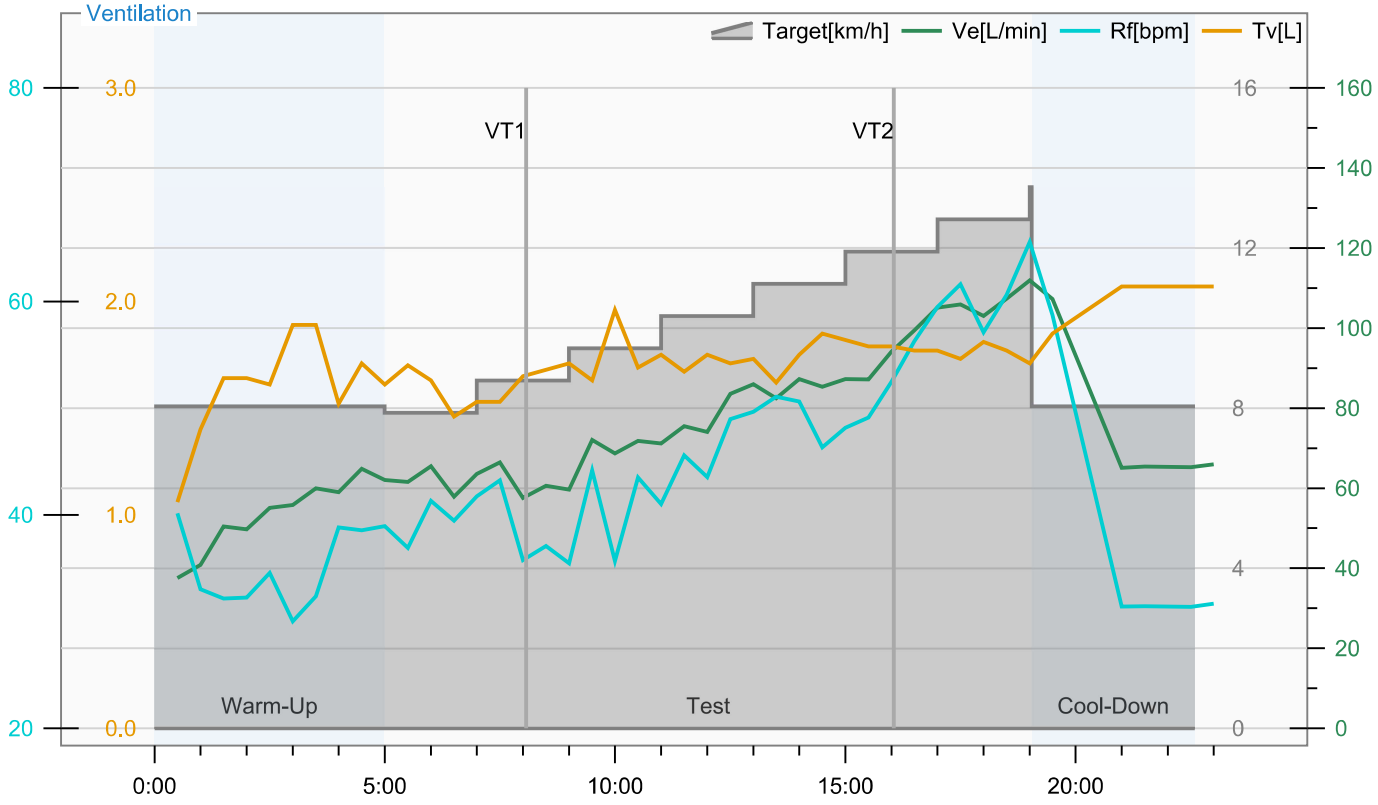
VO2 Min: 6.5 Max: 46.7 Avg: 34.8 HR Min: 83 Max: 170 Avg: 129

Speed Min: 0.0 Max: 12.0 Avg: 7.7

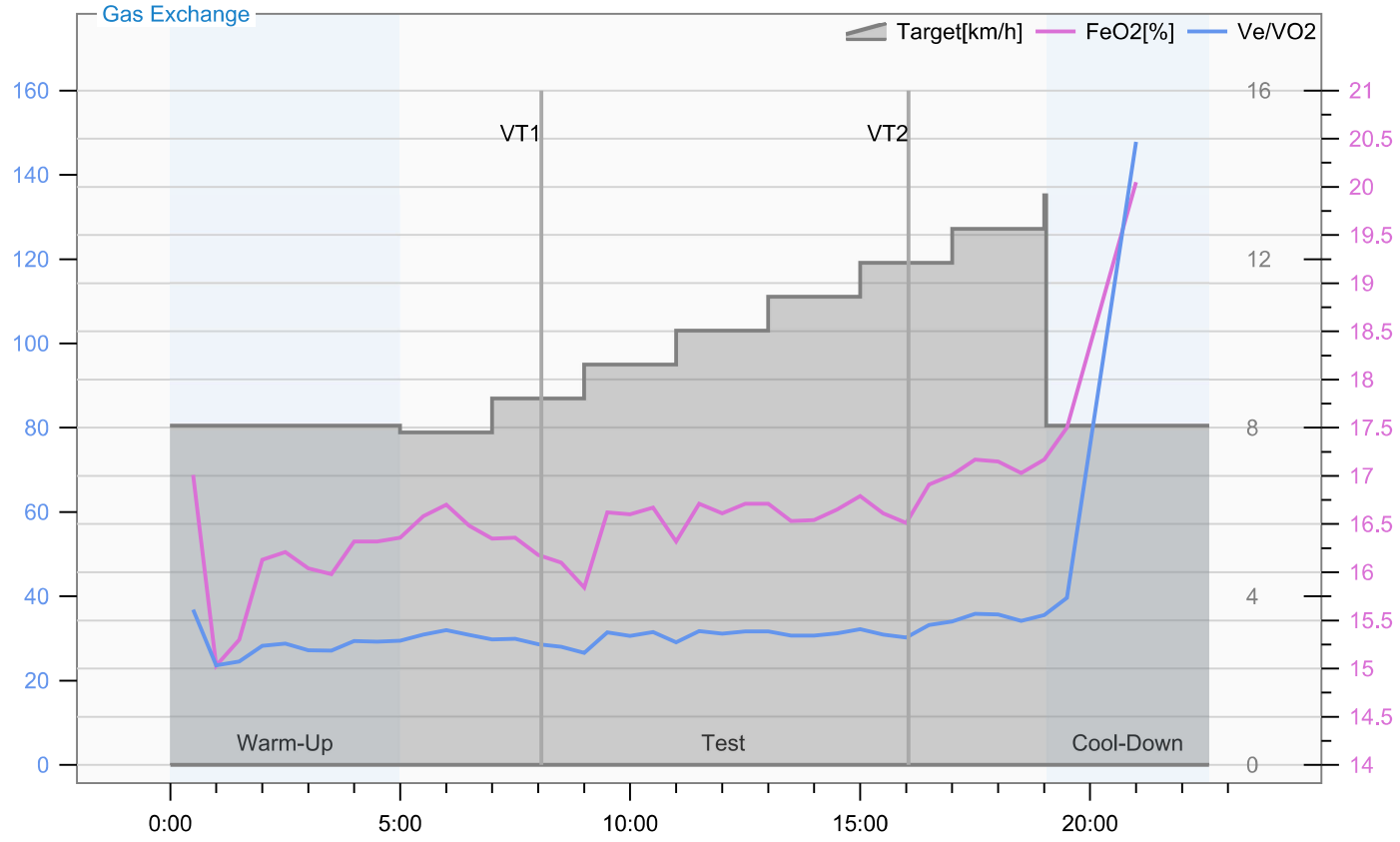


Tv Min: 1.1 Max: 2.1 Avg: 1.7 Rf Min: 30.0 Max: 65.6 Avg: 42.9

Ve Min: 37.6 Max: 111.9 Avg: 73.2



FeO2 Min: 15.0 Max: 20.1 Avg: 16.6 Ve/VO2 Min: 23.63 Max: 147.86 Avg: 33.79



Speed Min: 0.0 Max: 12.0 Avg: 7.7 RPM Min: 0 Max: 83 Avg: 67

Power Min: 0 Max: 328 Avg: 213

