

# Metabolic Power

## Live Metabolic Power (Gen 2)

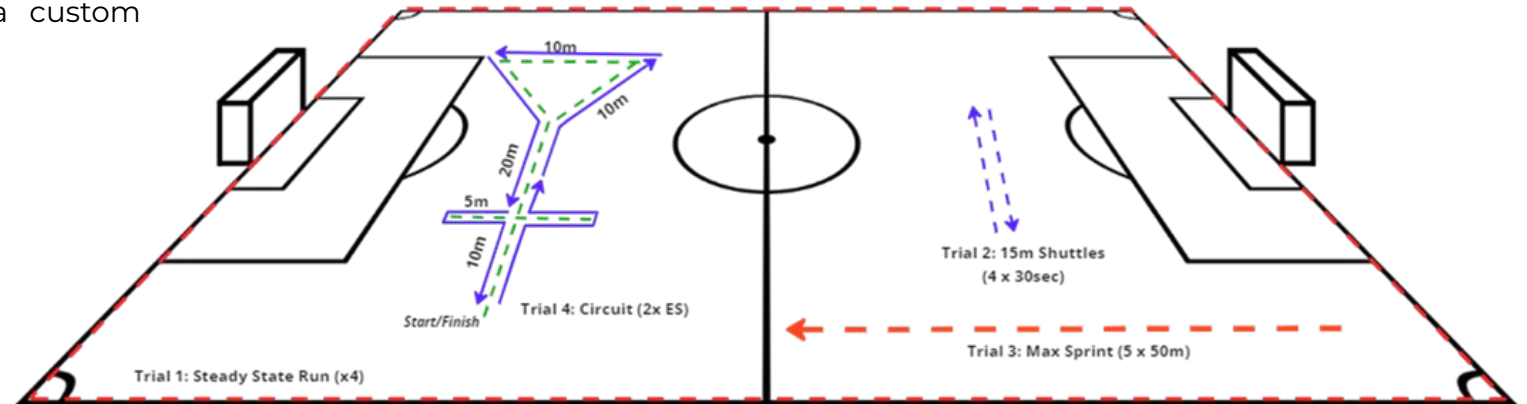
Gen 2 Metabolic Power introduces the ability to monitor Metabolic Power metrics in real-time through either the console or Vector Live App, a feature not accessible in Gen 1.

### AIMS

To compare Metabolic Power metrics between Gen 2 and Gen 1 data processing by utilizing a standardized protocol while wearing two Vector S7 devices simultaneously in a custom multi-pouch garment across multiple sessions.

### PROTOCOL

1. Soccer pitch perimeter runs [4 - 2x each direction]
2. 30 second shuttle runs over 15m [4]
3. 50m Max Sprint Efforts [5]
4. Sports Simulation Circuit [4 - 2x each direction]



i. Protocol repeated in two separate testing sessions, 7 days apart.

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### RESULTS

A pooled summary (n=2 sessions) of differences in data for respective Metabolic Power metrics is presented in the table below.

- Metabolic Power metrics exhibit **excellent agreement** between Gen 2 and Gen 1 processing.
- Gen 2 shows a **small systematic underestimation** (<1.2%) for total and banded metrics, although this difference is practically negligible.
- Peak Metabolic Power (W/kg) has a small-moderate underestimation in Gen 2 compared to Gen 1 (-5.5%).

	Duration (min)	Total Dist (m)	Total HSR Dist (m)	Meta Energy (KJ/kg)	Met Power Band 1 Dist (m)	Met Power Band 2 Dist (m)	Met Power Band 3 Distance (m)*	Equivalent Dist (m)	Equivalent Dist Index (EDI)	Peak Meta Power (W/kg)
<b>Gen 2</b>	71	6,855	421	33.7	2,238	3,379	1,238	7,838	1.14	68.5
<b>Gen 1</b>	71	6,876	420	34.0	2,266	3,357	1,253	7,858	1.14	72.5
<b>Mean Bias (%)</b>	-	-0.3%	0.3%	-0.9%	-1.2%	0.6%	-1.2%	-0.3%	0.1%	-5.5%

MET POWER BANDS  
 BAND 1: 0 - 10 W/kg  
 BAND 2: 10 - 25.5 W/kg  
 BAND 3: 25.5 - 1000 W/kg

HIGH SPEED RUNNING (HSR)  
 HSR : 5+ m/s

\*Met Power Band 3 is equivalent to Gen 2 Default HMLD (i.e 25.5+ W/kg)