

Power vs Speed Analysis: Pursuit F3

Rotator Pursuit with F3 (Mueller front fairing, Coroplast tailbox and sides, cockpit sock, open bottom, front wheel half-cover)
 Louis Garneau ANS1 time-trial helmet worn.

Constants:	headwind speed (m/s):	0	no wind
	acceleration (m/s^2):	0	interval measurements were constant-speed (within 0.25 mph).
	mass of bike + rider (kg):	104	
	frontal area measured (m^2):	0.55	measured directly, includes helmeted head
	air density (kg/m^3):	1.226	air temperature ~ 20C
	wheel rotating mass (kg):	0.5	best guess, doesn't matter if acceleration is zero.
	accel of gravity (m/s^2):	9.806	
	coeff of rolling resistance:	0.0053	Ritchey Tom Slick K 36x559 (rear, 60%, 85psi); Conti GP 406x28 (front, 40%, 90psi)
	mechanical efficiency:	1	PowerTap hub positioned after drivetrain.

Notes

Avg. V (mi/hr)	Avg. V (m/s)	Avg. P (watts)	grade	CdA (m^2)	Cd	Avg. heartrate	interval time
10	4.47	26	0	0.13356245	0.06102263	76	01:49
14.9	6.66	50	-0.00265	0.17665178	0.32118506	82	01:39
20	8.94	112	-0.00265	0.2005069	0.36455799	109	01:09
25.1	11.22	204	-0.00265	0.20056607	0.36466558	120	00:45
28	12.52	274	-0.00265	0.19979638	0.36326614	131	00:29
15.1	6.75	91	0.00265	0.19239225	0.3498041	93	01:23
19.9	8.90	158	0.00265	0.19899875	0.36181591	105	00:59
24.9	11.13	234	0.00265	0.17004379	0.30917053	125	00:38
27.9	12.47	310	0.00265	0.17564058	0.31934651	133	00:22
		Avg:		0.1893246	0.3442265		
		Std. Dev:		0.0130037			

Data averaged over grade

Avg. V (mi/hr)	Avg. V (m/s)	Avg. P (watts)	grade	CdA (m^2)	Cd
10	4.47	26	0	0.13356245	0.06102263
15	6.71	70.5	0	0.18535771	0.33701403
19.95	8.92	135	0	0.19962333	0.36295151
25	11.18	219	0	0.18535576	0.33701048
27.95	12.49	292	0	0.18773458	0.3413356
		Avg:		0.1895178	0.3445779
		Std. Dev:		0.0068296	

