Race Analysis

Competition	World Championship 2019
Race	100 Free Final

Name	Take off time	Average Speed	Rank	Lane	Result
Nandor Nemeth	00:00.63	2.08	6	1	00:48.10

	1° 50	2° 50
Time	00:23.08	00:25.02
Stroke number *	35	42

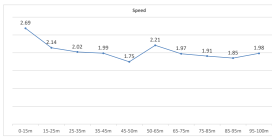
Laps and Splits	1° 25	2° 25	3° 25	4° 25
Time	00:10.25	00:12.83	00:11.86	00:13.16

Total underwater parameters			
Underwater phase time	Time	00:06.34	13.18%
Underwater phase measure	Metre	17.15	17.15%
Underwater phase speed	Metre/Sec	2.71	
Swimming phase speed	Metre/Sec	1.98	

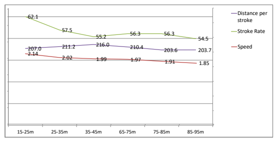
		Start 15m	15-25m	25-35m	35-45m	45-50m	Turn 45-65m	65-75m	75-85m	85-95m	95-100m	Average swimming parameters
Split	Time	00:05.58	00:10.25	00:15.19	00:20.22	00:23.08	00:29.87	00:34.94	00:40.18	00:45.58	00:48.10	
Lap	Time	00:05.58	00:04.67	00:04.94	00:05.03	00:02.86	00:09.65	00:05.07	00:05.24	00:05.40	00:02.52	
Speed	Metre/Sec	2.69	2.14	2.02	1.99	1.75	2.07	1.97	1.91	1.85	1.98	1.99
Stroke Rate	Cycle/Min		62.1	57.5	55.2	48.8		56.3	56.3	54.5	51.7	56.97
Stroke tempo	Time		00:00.97	00:01.04	00:01.09	00:01.23		00:01.07	00:01.07	00:01.10	00:01.16	00:01.06
Distance per stroke	Cm		207.0	211.2	216.0			210.4	203.6	203.7		208.65
Stroke index	DPS*Speed		4.43	4.28	4.29			4.15	3.88	3.77		4.16

Underwater - Swimming phases		1° 50	2° 50
Breakout time	Time	00:03.97	00:02.37
Breakout distance	Metre	11.20	5.95
Average 50m speed	Metre/Sec	2.17	2.00
Average swimming speed	Metre/Sec	2.03	1.94
Underwater phase speed	Metre/Sec	2.82	2.51
Speed difference between underwater and swimming	Metre/Sec	0.79	0.57

Speed evolution



Comparision Distance per stroke - Stroke Rate - Speed



Name	Take off time	Average Speed	Rank	Lane	Result
Blake Pieroni	00:00.61	2.09	4	2	00:47.88

	1° 50	2° 50
Time	00:22.84	00:25.04
Stroke number *	32	39

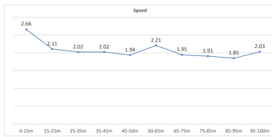
Laps and Splits	1° 25	2° 25	3° 25	4° 25
Time	00:10.38	00:12.46	00:11.93	00:13.11

Total underwater parameters			
Underwater phase time	Time	00:07.04	14.70%
Underwater phase measure	Metre	18.60	18.60%
Underwater phase speed	Metre/Sec	2.64	
Swimming phase	Metre/Sec	1.99	

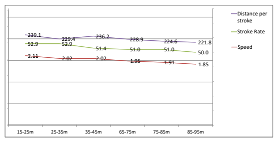
		Start 15m	15-25m	25-35m	35-45m	45-50m	Turn 45-65m	65-75m	75-85m	85-95m	95-100m	Average swimming parameters
Split	Time	00:05.64	00:10.38	00:15.32	00:20.26	00:22.84	00:29.63	00:34.77	00:40.01	00:45.42	00:47.88	
Lap	Time	00:05.64	00:04.74	00:04.94	00:04.94	00:02.58	00:09.37	00:05.14	00:05.24	00:05.41	00:02.46	
Speed	Metre/Sec	2.66	2.11	2.02	2.02	1.94	2.13	1.95	1.91	1.85	2.03	1.98
Stroke Rate	Cycle/Min		52.9	52.9	51.4	50.0		51.0	51.0	50.0	51.7	51.55
Stroke tempo	Time		00:01.13	00:01.13	00:01.17	00:01.20		00:01.18	00:01.18	00:01.20	00:01.16	00:01.16
Distance per stroke	Cm		239.1	229.4	236.2			228.9	224.6	221.8		230.00
Stroke index	DPS*Speed		5.04	4.64	4.78			4.45	4.29	4.10		4.59

Underwater - Swimming phases		1° 50	2° 50
Breakout time	Time	00:04.21	00:02.83
Breakout distance	Metre	11.70	6.90
Average 50m speed	Metre/Sec	2.19	2.00
Average swimming speed	Metre/Sec	2.06	1.94
Underwater phase speed	Metre/Sec	2.78	2.44
Speed difference between underwater and swimming	Metre/Sec	0.72	0.50

Speed evolution



Comparision Distance per stroke - Stroke Rate - Speed



Name	Take off time	Average Speed	Rank	Lane	Result
Marcelo Chierighini	00:00.63	2.09	5	3	00:47.93

	1° 50	2° 50
Time	00:22.58	00:25.35
Stroke number *	33	37

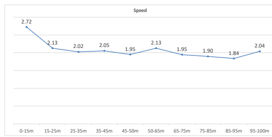
Laps and Splits	1° 25	2° 25	3° 25	4° 25
Time	00:10.21	00:12.37	00:12.19	00:13.16

Total underwater parameters			
Underwater phase time	Time	00:07.77	16.21%
Underwater phase measure	Metre	20.25	20.25%
Underwater phase speed	Metre/Sec	2.61	
Swimming phase	Metre/Sec	1.99	

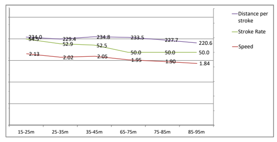
		Start 15m	15-25m	25-35m	35-45m	45-50m	Turn 45-65m	65-75m	75-85m	85-95m	95-100m	Average swimming parameters
Split	Time	00:05.51	00:10.21	00:15.15	00:20.02	00:22.58	00:29.63	00:34.77	00:40.04	00:45.48	00:47.93	
Lap	Time	00:05.51	00:04.70	00:04.94	00:04.87	00:02.56	00:09.61	00:05.14	00:05.27	00:05.44	00:02.45	
Speed	Metre/Sec	2.72	2.13	2.02	2.05	1.95	2.08	1.95	1.90	1.84	2.04	1.99
Stroke Rate	Cycle/Min		54.5	52.9	52.5	54.5		50.0	50.0	50.0	53.1	51.66
Stroke tempo	Time		00:01.10	00:01.13	00:01.14	00:01.10		00:01.20	00:01.20	00:01.20	00:01.13	00:01.16
Distance per stroke	Cm		234.0	229.4	234.8			233.5	227.7	220.6		230.00
Stroke index	DPS*Speed		4.98	4.64	4.82			4.54	4.32	4.05		4.60

Underwater - Swimming phases		1° 50	2° 50
Breakout time	Time	00:04.24	00:03.53
Breakout distance	Metre	11.90	8.35
Average 50m speed	Metre/Sec	2.21	1.97
Average swimming speed	Metre/Sec	2.08	1.91
Underwater phase speed	Metre/Sec	2.81	2.37
Speed difference between underwater and swimming	Metre/Sec	0.73	0.46

Speed evolution



Comparision Distance per stroke - Stroke Rate - Speed



Name	Take off time	Average Speed	Rank	Lane	Result
Caeleb Dressel	00:00.61	2.13	1	4	00:46.96

	1° 50	2° 50
Time	00:22.29	00:24.67
Stroke number *	30	36

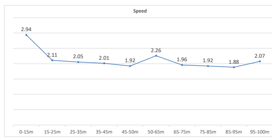
Laps and Splits	1° 25	2° 25	3° 25	4° 25
Time	00:09.85	00:12.44	00:11.75	00:12.92

Total underwater parameters			
Underwater phase time	Time	00:08.29	17.65%
Underwater phase measure	Metre	22.70	22.70%
Underwater phase speed	Metre/Sec	2.74	
Swimming phase	Metre/Sec	2.00	

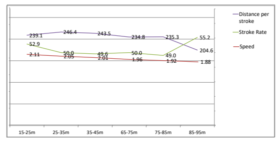
		Start 15m	15-25m	25-35m	35-45m	45-50m	Turn 45-65m	65-75m	75-85m	85-95m	95-100m	Average swimming parameters
Split	Time	00:05.11	00:09.85	00:14.72	00:19.69	00:22.29	00:28.93	00:34.04	00:39.24	00:44.55	00:46.96	
Lap	Time	00:05.11	00:04.74	00:04.87	00:04.97	00:02.60	00:09.24	00:05.11	00:05.20	00:05.31	00:02.41	
Speed	Metre/Sec	2.94	2.11	2.05	2.01	1.92	2.16	1.96	1.92	1.88	2.07	1.99
Stroke Rate	Cycle/Min		52.9	50.0	49.6	60.0		50.0	49.0	55.2	53.1	51.13
Stroke tempo	Time		00:01.13	00:01.20	00:01.21	00:01.00		00:01.20	00:01.22	00:01.09	00:01.13	00:01.18
Distance per stroke	Cm		239.1	246.4	243.5			234.8	235.3	204.6		233.95
Stroke index	DPS*Speed		5.04	5.06	4.90			4.60	4.52	3.85		4.60

Underwater - Swimming phases		1° 50	2° 50
Breakout time	Time	00:04.38	00:03.91
Breakout distance	Metre	13.20	9.50
Average 50m speed	Metre/Sec	2.24	2.03
Average swimming speed	Metre/Sec	2.05	1.95
Underwater phase speed	Metre/Sec	3.01	2.43
Speed difference between underwater and swimming	Metre/Sec	0.96	0.48

Speed evolution



Comparision Distance per stroke - Stroke Rate - Speed



Name	Take off time	Average Speed	Rank	Lane	Result
Kyle Chalmers	00:00.71	2.12	2	5	00:47.08

	1° 50	2° 50
Time	00:22.79	00:24.29
Stroke number *	32	36

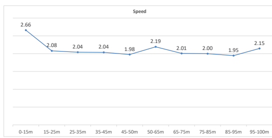
Laps and Splits	1° 25	2° 25	3° 25	4° 25
Time	00:10.45	00:12.34	00:11.82	00:12.47

Total underwater parameters			
Underwater phase time	Time	00:07.92	16.82%
Underwater phase measure	Metre	20.90	20.90%
Underwater phase speed	Metre/Sec	2.64	
Swimming phase	Metre/Sec	2.02	

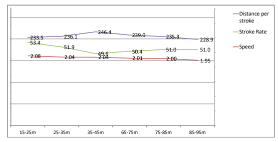
		Start 15m	15-25m	25-35m	35-45m	45-50m	Turn 45-65m	65-75m	75-85m	85-95m	95-100m	Average swimming parameters
Split	Time	00:05.64	00:10.45	00:15.35	00:20.26	00:22.79	00:29.63	00:34.61	00:39.61	00:44.75	00:47.08	
Lap	Time	00:05.64	00:04.81	00:04.90	00:04.91	00:02.53	00:09.37	00:04.98	00:05.00	00:05.14	00:02.33	
Speed	Metre/Sec	2.66	2.08	2.04	2.04	1.98	2.13	2.01	2.00	1.95	2.15	2.02
Stroke Rate	Cycle/Min		53.4	51.9	49.6	47.6		50.4	51.0	51.0	48.8	51.21
Stroke tempo	Time		00:01.12	00:01.16	00:01.21	00:01.26		00:01.19	00:01.18	00:01.18	00:01.23	00:01.17
Distance per stroke	Cm		233.5	236.1	246.4			239.0	235.3	228.9		236.54
Stroke index	DPS*Speed		4.86	4.82	5.02			4.80	4.71	4.45		4.78

Underwater - Swimming phases		1° 50	2° 50
Breakout time	Time	00:04.28	00:03.64
Breakout distance	Metre	12.35	8.55
Average 50m speed	Metre/Sec	2.19	2.06
Average swimming speed	Metre/Sec	2.03	2.01
Underwater phase speed	Metre/Sec	2.89	2.35
Speed difference between underwater and swimming	Metre/Sec	0.85	0.34

Speed evolution



Comparision Distance per stroke - Stroke Rate - Speed



Name	Take off time	Average Speed	Rank	Lane	Result
Vladislav Grinev	00:00.64	2.09	3	6	00:47.82

	1° 50	2° 50
Time	00:22.99	00:24.83
Stroke number *	31	34

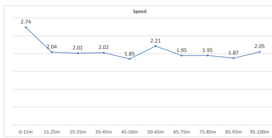
Laps and Splits	1° 25	2° 25	3° 25	4° 25
Time	00:10.38	00:12.61	00:11.92	00:12.91

Total underwater parameters			
Underwater phase time	Time	00:06.24	13.05%
Underwater phase measure	Metre	20.85	20.85%
Underwater phase speed	Metre/Sec	3.34	
Swimming phase	Metre/Sec	1.90	

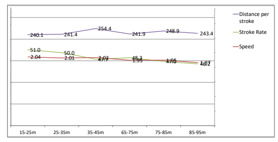
		Start 15m	15-25m	25-35m	35-45m	45-50m	Turn 45-65m	65-75m	75-85m	85-95m	95-100m	Average swimming parameters
Split	Time	00:05.48	00:10.38	00:15.35	00:20.29	00:22.99	00:29.77	00:34.91	00:40.04	00:45.38	00:47.82	
Lap	Time	00:05.48	00:04.90	00:04.97	00:04.94	00:02.70	00:09.48	00:05.14	00:05.13	00:05.34	00:02.44	
Speed	Metre/Sec	2.74	2.04	2.01	2.02	1.85	2.11	1.95	1.95	1.87	2.05	1.97
Stroke Rate	Cycle/Min		51.0	50.0	47.7	51.7		48.3	47.0	46.2	47.6	48.36
Stroke tempo	Time		00:01.18	00:01.20	00:01.26	00:01.16		00:01.24	00:01.28	00:01.30	00:01.26	00:01.24
Distance per stroke	Cm		240.1	241.4	254.4			241.9	248.9	243.4		245.03
Stroke index	DPS*Speed		4.90	4.86	5.15			4.71	4.85	4.56		4.83

Underwater - Swimming phases		1° 50	2° 50
Breakout time	Time	00:03.97	00:02.27
Breakout distance	Metre	12.60	8.25
Average 50m speed	Metre/Sec	2.17	2.01
Average swimming speed	Metre/Sec	1.97	1.85
Underwater phase speed	Metre/Sec	3.17	3.63
Speed difference between underwater and swimming	Metre/Sec	1.21	1.78

Speed evolution



Comparision Distance per stroke - Stroke Rate - Speed



Name	Take off time	Average Speed	Rank	Lane	Result
Clement Mignon	00:00.63	2.06	7	7	00:48.43

	1° 50	2° 50
Time	00:22.91	00:25.52
Stroke number *	34	42

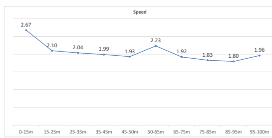
Laps and Splits	1° 25	2° 25	3° 25	4° 25
Time	00:10.38	00:12.53	00:11.93	00:13.59

Total underwater parameters			
Underwater phase time	Time	00:06.17	12.74%
Underwater phase measure	Metre	18.65	18.65%
Underwater phase speed	Metre/Sec	3.02	
Swimming phase	Metre/Sec	1.92	

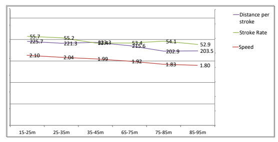
		Start 15m	15-25m	25-35m	35-45m	45-50m	Turn 45-65m	65-75m	75-85m	85-95m	95-100m	Average swimming parameters
Split	Time	00:05.61	00:10.38	00:15.29	00:20.32	00:22.91	00:29.63	00:34.84	00:40.31	00:45.88	00:48.43	
Lap	Time	00:05.61	00:04.77	00:04.91	00:05.03	00:02.59	00:09.31	00:05.21	00:05.47	00:05.57	00:02.55	
Speed	Metre/Sec	2.67	2.10	2.04	1.99	1.93	2.15	1.92	1.83	1.80	1.96	1.95
Stroke Rate	Cycle/Min		55.7	55.2	53.4	50.0		53.4	54.1	52.9	54.5	54.13
Stroke tempo	Time		00:01.08	00:01.09	00:01.12	00:01.20		00:01.12	00:01.11	00:01.13	00:01.10	00:01.11
Distance per stroke	Cm		225.7	221.3	223.3			215.6	202.9	203.5		215.39
Stroke index	DPS*Speed		4.73	4.51	4.44			4.14	3.71	3.65		4.24

Underwater - Swimming phases		1° 50	2° 50
Breakout time	Time	00:03.97	00:02.20
Breakout distance	Metre	12.60	6.05
Average 50m speed	Metre/Sec	2.18	1.96
Average swimming speed	Metre/Sec	1.97	1.88
Underwater phase speed	Metre/Sec	3.17	2.75
Speed difference between underwater and swimming	Metre/Sec	1.20	0.87

Speed evolution



Comparision Distance per stroke - Stroke Rate - Speed



Name	Take off time	Average Speed	Rank	Lane	Result
Breno Correia	00:00.61	2.04	8	8	00:48.90

	1° 50	2° 50
Time	00:23.29	00:25.61
Stroke number *	34	39

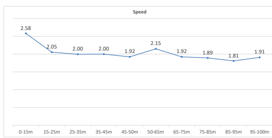
Laps and Splits	1° 25	2° 25	3° 25	4° 25
Time	00:10.68	00:12.61	00:12.18	00:13.43

Total underwater parameters			
Underwater phase time	Time	00:07.48	15.30%
Underwater phase measure	Metre	20.35	20.35%
Underwater phase speed	Metre/Sec	2.72	
Swimming phase	Metre/Sec	1.92	

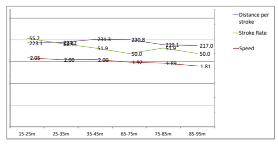
		Start 15m	15-25m	25-35m	35-45m	45-50m	Turn 45-65m	65-75m	75-85m	85-95m	95-100m	Average swimming parameters
Split	Time	00:05.81	00:10.68	00:15.69	00:20.69	00:23.29	00:30.27	00:35.47	00:40.75	00:46.28	00:48.90	
Lap	Time	00:05.81	00:04.87	00:05.01	00:05.00	00:02.60	00:09.58	00:05.20	00:05.28	00:05.53	00:02.62	
Speed	Metre/Sec	2.58	2.05	2.00	2.00	1.92	2.09	1.92	1.89	1.81	1.91	1.95
Stroke Rate	Cycle/Min		55.2	53.4	51.9	53.1		50.0	51.9	50.0	54.5	52.06
Stroke tempo	Time		00:01.09	00:01.12	00:01.16	00:01.13		00:01.20	00:01.16	00:01.20	00:01.10	00:01.15
Distance per stroke	Cm		223.1	224.2	231.3			230.8	219.1	217.0		224.25
Stroke index	DPS*Speed		4.58	4.48	4.63			4.44	4.15	3.92		4.39

Underwater - Swimming phases		1° 50	2° 50
Breakout time	Time	00:04.31	00:03.17
Breakout distance	Metre	12.65	7.70
Average 50m speed	Metre/Sec	2.15	1.95
Average swimming speed	Metre/Sec	1.97	1.89
Underwater phase speed	Metre/Sec	2.94	2.43
Speed difference between underwater and swimming	Metre/Sec	0.97	0.54

Speed evolution



Comparision Distance per stroke - Stroke Rate - Speed



* = for Freestyle and Backstroke the movement of every single arm

SwimLab by Stefano Nurra

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